

Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note: Read Instructions before completing form.

I. A. Applicant/Recipient (Name, Address, City, State, Zip Code)

Name:

Address:

City:

State: Zip Code:

B. DUNS No.

II. Is the applicant currently receiving EPA Assistance? ☒ Yes ☐ No

III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective actions taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3))

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below.

☐ Yes ☒ No

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).

☐ Yes ☐ No

b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable by persons with disabilities, explain how a regulatory exception (40 C.F.R. 7.70) applies.

VII. Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex, age, or disability in its program or activities? (40 C.F.R. 5.140 and 7.95)

☒ Yes ☐ No

a. Do the methods of notice accommodate those with impaired vision or hearing?

☒ Yes ☐ No

b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications?

☒ Yes ☐ No

c. Does the notice identify a designated civil rights coordinator?

☒ Yes ☐ No

VIII. Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. 7.85(a))

☒ Yes ☐ No

IX. Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166)

☒ Yes ☐ No

- X. If the applicant is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator.

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- XI. If the applicant is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet Address for, or a copy of, the procedures.

--

For the Applicant/Recipient

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official

B. Title of Authorized Official

C. Date

Wall T Dan

Mayor

03/25/2022

For the U.S. Environmental Protection Agency

I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preaward compliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisions of 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statutes and EPA regulations.

A. *Signature of Authorized EPA Official

B. Title of Authorized Official

C. Date

*** See Instructions**

Instructions for EPA FORM 4700-4 (Rev. 06/2014)

General. Recipients of Federal financial assistance from the U.S. Environmental Protection Agency must comply with the following statutes and regulations.

Title VI of the Civil Rights Acts of 1964 provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The Act goes on to explain that the statute shall not be construed to authorize action with respect to any employment practice of any employer, employment agency, or labor organization (except where the primary objective of the Federal financial assistance is to provide employment). Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act provides that no person in the United States shall on the ground of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the Federal Water Pollution Control Act, as amended. Employment discrimination on the basis of sex is prohibited in all such programs or activities. Section 504 of the Rehabilitation Act of 1973 provides that no otherwise qualified individual with a disability in the United States shall solely by reason of disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Employment discrimination on the basis of disability is prohibited in all such programs or activities. The Age Discrimination Act of 1975 provides that no person on the basis of age shall be excluded from participation under any program or activity receiving Federal financial assistance. Employment discrimination is not covered. Age discrimination in employment is prohibited by the Age Discrimination in Employment Act administered by the Equal Employment Opportunity Commission. Title IX of the Education Amendments of 1972 provides that no person in the United States on the basis of sex shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance. Employment discrimination on the basis of sex is prohibited in all such education programs or activities. Note: an education program or activity is not limited to only those conducted by a formal institution. 40 C.F.R. Part 5 implements Title IX of the Education Amendments of 1972. 40 C.F.R. Part 7 implements Title VI of the Civil Rights Act of 1964, Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act, and Section 504 of The Rehabilitation Act of 1973. The Executive Order 13166 (E.O. 13166) entitled; "Improving Access to Services for Persons with Limited English Proficiency" requires Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

Items "Applicant" means any entity that files an application or unsolicited proposal or otherwise requests EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Recipient" means any entity, other than applicant, which will actually receive EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Civil rights lawsuits and administrative complaints" means any lawsuit or administrative complaint alleging discrimination on the basis of race, color, national origin, sex, age, or disability pending or decided against the applicant and/or entity which actually benefits from the grant, but excluding employment complaints not covered by 40 C.F.R. Parts 5 and 7. For example, if a city is the named applicant but the grant will actually benefit the Department of Sewage, civil rights lawsuits involving both the city and the Department of Sewage should be listed. "Civil rights compliance review" means any review assessing the applicant's and/or recipient's compliance with laws prohibiting discrimination on the basis of race, color, national origin, sex, age, or disability. Submit this form with the original and required copies of applications, requests for extensions, requests for increase of funds, etc. Updates of information are all that are required after the initial application submission. If any item is not relevant to the project for which assistance is requested, write "NA" for "Not Applicable." In the event applicant is uncertain about how to answer any questions, EPA program officials should be contacted for clarification. * Note: Signature appears in the Approval Section of the EPA Comprehensive Administrative Review For Grants/Cooperative Agreements & Continuation/Supplemental Awards form.

Other Attachment File(s)

* Mandatory Other Attachment Filename:

Add Mandatory Other Attachment

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To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment

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EPA KEY CONTACTS FORM

OMB Number: 2030-0020
Expiration Date: 06/30/2024

Authorized Representative: *Original awards and amendments will be sent to this individual for review and acceptance, unless otherwise indicated.*

Name:	Prefix: Mrs.	First Name: Daniella	Middle Name:
	Last Name: Cava		Suffix:
Title:	Mayor		
Complete Address:			
Street1:	Stephen P. Clark Center		
Street2:	111 NW 1st Street, 29th Floor		
City:	Miami	State:	FL: Florida
Zip / Postal Code:	33128-1994	Country:	USA: UNITED STATES
Phone Number:	305-375-1880	Fax Number:	305-375-1262
E-mail Address:	daniella.cava@miamidade.gov		

Payee: *Individual authorized to accept payments.*

Name:	Prefix: Mr.	First Name: Edward	Middle Name:
	Last Name: Marquez		Suffix:
Title:	Chief Financial Officer		
Complete Address:			
Street1:	Stephen P. Clark Center		
Street2:	111 NW 1st Street, 29th Floor		
City:	Miami	State:	FL: Florida
Zip / Postal Code:	33128	Country:	USA: UNITED STATES
Phone Number:	305-375-1451	Fax Number:	
E-mail Address:	edward.marquez@miamidade.gov		

Administrative Contact: *Individual from Sponsored Programs Office to contact concerning administrative matters (i.e., indirect cost rate computation, rebudgeting requests etc).*

Name:	Prefix: Mr.	First Name: James	Middle Name:
	Last Name: Murley		Suffix:
Title:	Chief Resilience Officer		
Complete Address:			
Street1:	Stephen P. Clark Center		
Street2:	111 NW 1st Street, 12th Floor		
City:	Miami	State:	FL: Florida
Zip / Postal Code:	33128	Country:	USA: UNITED STATES
Phone Number:	305-375-5593	Fax Number:	
E-mail Address:	James.Murley@miamidade.gov		

EPA KEY CONTACTS FORM

Project Manager: *Individual responsible for the technical completion of the proposed work.*

Name: **Prefix:** Ms. **First Name:** Karina **Middle Name:**

Last Name: Castillo **Suffix:**

Title: RER Resiliency Coordinator 2

Complete Address:

Street1: Stephen P. Clark Center

Street2: 111 NW 1st Street, 12th Floor

City: Miami

State: FL: Florida

Zip / Postal Code: 33128

Country: USA: UNITED STATES

Phone Number: 305-375-4274

Fax Number:

E-mail Address: karina.castillo@miamidade.gov

Project Narrative File(s)

* **Mandatory Project Narrative File Filename:**

Add Mandatory Project Narrative File

Delete Mandatory Project Narrative File

View Mandatory Project Narrative File

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File

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BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2022

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in Miami	66.034	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
2. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5. Totals		\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>

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SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in Miami				
a. Personnel	\$ 49,095.00	\$	\$	\$	\$ 49,095.00
b. Fringe Benefits	23,428.00				23,428.00
c. Travel					
d. Equipment					
e. Supplies	43,920.00				43,920.00
f. Contractual	383,545.00				383,545.00
g. Construction					
h. Other					
i. Total Direct Charges (sum of 6a-6h)	499,988.00				\$ 499,988.00
j. Indirect Charges					\$
k. TOTALS (sum of 6i and 6j)	\$ 499,988.00	\$	\$	\$	\$ 499,988.00
7. Program Income	\$ 0.00	\$	\$	\$	\$ 0.00

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SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program		(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8.	Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in Miami	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
9.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
11.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
12. TOTAL (sum of lines 8-11)		\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
14. Non-Federal	\$ <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15. TOTAL (sum of lines 13 and 14)	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT					
(a) Grant Program		FUTURE FUNDING PERIODS (YEARS)			
		(b)First	(c) Second	(d) Third	(e) Fourth
16.	Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in Miami	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
17.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
18.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
19.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
20. TOTAL (sum of lines 16 - 19)		\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges: <input type="text" value="\$499,988"/>	22. Indirect Charges: <input type="text" value="0"/>
23. Remarks: <input type="text"/>	

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Application for Federal Assistance SF-424

* 1. Type of Submission:

- ☐ Preapplication
☒ Application
☐ Changed/Corrected Application

* 2. Type of Application:

- ☒ New
☐ Continuation
☐ Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received:

03/25/2022

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:

Miami-Dade County

* b. Employer/Taxpayer Identification Number (EIN/TIN):

59-6000573

* c. Organizational DUNS:

1319102540000

d. Address:

* Street1:

Office of Resilience

Street2:

111 NW 1st Street, 12th Floor

* City:

Miami

County/Parish:

Miami-Dade

* State:

FL: Florida

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

3312881902

e. Organizational Unit:

Department Name:

Regulatory & Economic Resource

Division Name:

Office of Resilience

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

Mr.

* First Name:

James

Middle Name:

* Last Name:

Murley

Suffix:

Title: Chief Resilience Officer

Organizational Affiliation:

Miami-Dade County

* Telephone Number:

305-375-5593

Fax Number:

* Email:

James.Murley@miamidade.gov

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

B: County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

Environmental Protection Agency

11. Catalog of Federal Domestic Assistance Number:

66.034

CFDA Title:

Surveys, Studies, Research, Investigations, Demonstrations, and Special Purpose Activities
Relating to the Clean Air Act

* 12. Funding Opportunity Number:

EPA-OAR-OAQPS-22-01

* Title:

Enhanced Air Quality Monitoring for Communities

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

1234-14Areas_and_16-Congressional Districts

Add Attachment

Delete Attachment

View Attachment

* 15. Descriptive Title of Applicant's Project:

Promoting community-based air quality monitoring partnerships to overcome environmental and health
disparities in Miami-Dade County

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424**16. Congressional Districts Of:**

* a. Applicant

24

* b. Program/Project

24, 25

Attach an additional list of Program/Project Congressional Districts if needed.

1235-14Areas_and_16-Congressional District

Add Attachment

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17. Proposed Project:

* a. Start Date:

01/01/2023

* b. End Date:

12/31/2026

18. Estimated Funding (\$):

* a. Federal

499,988.00

* b. Applicant

0.00

* c. State

0.00

* d. Local

0.00

* e. Other

0.00

* f. Program Income

0.00

* g. TOTAL

499,988.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**☐ a. This application was made available to the State under the Executive Order 12372 Process for review on☒ b. Program is subject to E.O. 12372 but has not been selected by the State for review.☐ c. Program is not covered by E.O. 12372.*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**☐ Yes☒ No

If "Yes", provide explanation and attach

Add Attachment

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21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:

Mrs.

* First Name:

Daniella

Middle Name:

* Last Name:

Cava

Suffix:

* Title:

Mayor

* Telephone Number:

305-375-1880

Fax Number:

* Email:

Daniella.Cava@miamidade.gov

* Signature of Authorized Representative:

Wall T Dan

* Date Signed:

03/25/2022

14. Areas Affected by the Project (Cities, Counties, States, etc.):

The project will serve residents from the entire jurisdiction of Miami-Dade County

16. Congressional Districts Of:

Applicant is located within US Congressional District 24 and serves all US Congressional Districts within Miami-Dade County: 23, 24, 25, 26, and 27.

14. Areas Affected by the Project (Cities, Counties, States, etc.):

The project will serve residents from the entire jurisdiction of Miami-Dade County

16. Congressional Districts Of:

Applicant is located within US Congressional District 24 and serves all US Congressional Districts within Miami-Dade County: 23, 24, 25, 26, and 27.

Manifest for Grant Application # GRANT13580355

Grant Application XML file (total 1):

1. GrantApplication.xml. (size 22661 bytes)

Forms Included in Zip File(total 6):

1. Form ProjectNarrativeAttachments_1_2-V1.2.pdf (size 16032 bytes)

2. Form SF424_3_0-V3.0.pdf (size 24348 bytes)

3. Form SF424A-V1.0.pdf (size 22853 bytes)

4. Form EPA4700_4_3_0-V3.0.pdf (size 22579 bytes)

5. Form OtherNarrativeAttachments_1_2-V1.2.pdf (size 16001 bytes)

6. Form EPA_KeyContacts_2_0-V2.0.pdf (size 37486 bytes)

Attachments Included in Zip File (total 4):

1. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1236-All-Attachments-EPA-FINAL.pdf application/pdf (size 7384352 bytes)

2. SF424_3_0 SF424_3_0-1234-14Areas_and_16-Congressional Districts.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 12410 bytes)

3. SF424_3_0 SF424_3_0-1235-14Areas_and_16-Congressional Districts.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 12410 bytes)

4. ProjectNarrativeAttachments_1_2 ProjectNarrativeAttachments_1_2-Attachments-1237-MDC-EPA-EJ-Air_Final-Project-Narrative03252022.pdf application/pdf (size 2340435 bytes)

***Promoting community-based air quality
monitoring partnerships to overcome
environmental and health disparities in
Miami-Dade County***

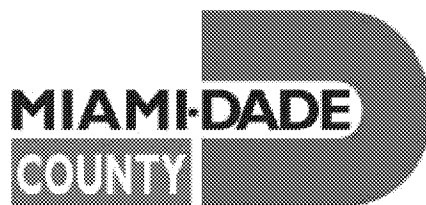
Submitted To:

**Environmental Protection Agency (EPA)
RFA # EPA-OAR-OAQPS-22-01
CFDA 66.034**

PROJECT APPLICATION

Submitted By:

**Miami-Dade County
Department of Regulatory & Economic Resources
Office of Resilience**



&

Resilient305 Collaborative



March 25, 2022



Promoting community-based air quality monitoring partnerships to
overcome environmental and health disparities in Miami-Dade County
Miami-Dade County & Resilient305 Collaborative

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Project Title: Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in Miami-Dade County

Applicant Information:

- Miami-Dade County Office of Resilience
- Address: 111 NW 1st Street, 12th Floor, Miami, FL 33128
- Office: (305) 375-5593
- Contact Name: James F. Murley, Chief Resilience Officer, Office of Resilience
- Email Address and Website: James.Murley@miamidade.gov
<https://www.miamidade.gov/global/economy/resilience/home.page>
- DUNS Number: 131910254

Set-Aside: No set-aside

Brief Description of Applicant Organization: Miami-Dade County, a unit of local Government as stipulated in Section III-A of the RFP, and in accordance with 42 U.S.C. 16131 and CFDA 66.039

Project Partners:

Resilient305 Collaborative (Florida International University, University of Miami, Catalyst Miami)

Project Location: Miami-Dade County, Florida (Zip codes: 33176, 33160, 33196, 33141, 33180, 33185, 33056, 33055, 33186, 33054, 33127, 33129, 33142, 33189, 33158, 33130, 33187, 33136, 33137, 33139, 33125, 33145, 33134, 33138, 33133, 33150, 33156, 33149, 33173, 33170, 33012, 33014, 33168, 33183, 33182, 33184, 33174, 33172, 33175, 33030, 33013, 33194, 33177, 33157, 33033, 33032, 33144, 33126).

Air Pollutant Scope: Ozone, PM_{2.5}

Budget Summary:

EPA Funding Requested	Total Project Cost
\$499,988	\$499,988

Project Period: January 2023 - December 2026

Short Project Description:

Miami-Dade County has large health and socioeconomic discrepancies, which may be exacerbated by the uneven distribution of ambient air quality pollution sources in and around Environmental Justice and underserved communities. There is currently a very sparse network of ambient air quality monitoring stations, which do not consider the uneven distribution of pollution sources in vulnerable communities. This new program of work is proposed to expand and strengthen partnerships, engage community members in design and performance assessment of a new MDC clean air community partnership program: *What's your 305 Air Quality?* to ensure that environmental justice (EJ) communities are included as the central framework to help guide equitable and effective air quality mitigation actions.

Work Plan

I. Project Summary and Approach

A. Overall Project Summary Air pollution is a growing concern in many urban centers across the US (Allen et al., 2009; Lane et al., 2022). Anthropogenic activities such as fossil fuel combustion from stationary and mobile sources, as well as emissions from other industrial, commercial, and residential activities, are some of the main sources of air pollution. The transportation sector through the byproducts of combustion processes (such as particle pollution and air toxics) is another contributor to air pollution. Emissions from diesel combustion known as diesel particulate matter (PM) consists of PM (such as carbon particles – soot and other organic compounds) and gaseous pollutants (such as volatile organic compounds and oxides of nitrogen) (Ristovski et al., 2012; CA Air Resources Board, 2022). Some of these pollutants are also known carcinogens (Douglas et al., 2019; California Air Resources Board, 2022).

Small particles (comprised of both solid and gaseous material) are often associated with adverse respiratory health effects. These particles when inhaled become embedded in people's lungs and arteries can cause adverse cardiovascular health effects, and lead to respiratory mortality and morbidity (Allen et al., 2009; Ristovski et al., 2012; Liu et al., 2019). Epidemiologic studies show that vulnerable populations such as children, pregnant women and the elderly are particularly susceptible to suffer from outdoor air pollution (WHO, 2016; Grigorieva & Lukyanets, 2021). Cardiovascular and respiratory hospitalizations, and premature death have been linked to exposure to airborne particulate matter (CA Air Resources Board, 2022). Other adverse health effects associated with widespread exposure to air pollution include reduced lung function, asthma attacks, and respiratory inflammation (Douglas et al., 2019; Fears, 2022). Of specific concern is fine particulate matter (PM_{2.5} with an aerodynamic diameter < 2.5µm) and diesel PM (DPM) since upon inhalation particles deposit in the human respiratory system and can cause inflammation and oxidative stress (Ristovski et al., 2012). Yet another air pollutant that causes significant health concerns is tropospheric ozone (O₃; ozone that occurs close to the earth surface). It is formed by the interaction of volatile organic chemicals, carbon monoxide and nitrogen oxides and solar energy (World Atlas, 2022). Depending on the level of exposure, and on the underlying health conditions of individuals, ozone can inflame and damage airways, cause coughing and sore throat, increase the frequency of asthma attacks and exacerbate preexisting conditions such as chronic bronchitis and emphysema (EPA, 2021).

Since weather characteristics influence the dispersion and concentration of air contaminants, elevated air temperatures (heatwaves) and sunlight contribute to changes in chemical composition of particulate matter (PM), increasing the concentration of air pollutants (Kalisa et al., 2018). High incidence of ozone-related hospitalizations occurs during the summer months, when increased ambient air temperatures enhance the potential for tropospheric ozone to reach unhealthy levels (Kalisa et al., 2018; EPA, 2021). Studies (Kalisa et al., 2018; Grigorieva & Lukyanets, 2021; Pascal et al., 2021) also show that pollutant levels are higher during heatwaves. At the same time, high levels of atmospheric pollution trap heat, absorbing it (particularly soot and PM), and further contributing to warming (Grigorieva & Lukyanets, 2021). The synergistic effects of heat stress and air pollution pose additional risks to human health, particularly for vulnerable populations. Extreme heat waves and stagnant air compound the effects of ozone and particulate pollution shown to increase hospitalizations and contribute to premature mortality (Grigorieva & Lukyanets, 2021; Pascal et al., 2021).

When analyzing the impacts of air pollution, the spatial distribution of emissions is also an important consideration. The legacy of explicit and implicit discriminatory housing and community development plans have resulted in underserved and socially disadvantaged communities being disproportionately located in areas prone to myriad environmental concerns (e.g., flooding, industrial pollution, and poor air and water quality; Mohai et al., 2009; Anguelovski et al., 2016). Specifically, differential proximity and exposure to environmental hazards can significantly impact minority, low-income communities further exacerbating social inequities and hindering the ability to cope with environmental and climate stressors. Historical local zoning practices such as

redlining, and other zoning practices such as redlining, and other zoning ordinances have systematically placed pollution sources such as industrial activities, coal power plants, major roadways, and other emitting facilities next to marginalized neighborhoods and communities (Lane et al., 2022; Fears, 2022). Income disparities also place vulnerable populations at risk and contribute to the uneven distribution of hazards. Studies show that low-rent or subsidized housing are disproportionately impacted by environmental hazards (Wedeen, 2022). Thus social inequities further broadens the gap between the environmental impacts that communities must face and the resources available to them to cope with these impacts.

In this project, we propose to promote air quality monitoring partnerships that address environmental and health disparities in Miami-Dade County. In close collaboration among Miami-Dade County's Office of Resilience (OOR), Department of Regulatory and Economic Resources (RER) Air Quality Management Division (AQMD), and the Resilient305 Collaborative (Troxler et al. 2021), comprised of Catalyst Miami, Florida International University (FIU) and University of Miami (UM) partners, we propose to develop an expanded multi-sensor air quality monitoring network to complement, extend and improve resilience in the County's current air quality monitoring network. The goals of our work are to: 1) leverage existing air quality monitoring expertise; 2) develop and Integrate air quality monitoring outputs as part of existing community awareness and advisory groups to amplify the community voice in the monitoring of regional air quality; and 3) expand the foundation of trusting relationships and enhanced understanding from which sustainable solutions to community air pollution problems can be identified and supported. We will achieve these goals with four objectives:

- 1) Establish the ***What's your 305 Air Quality?*** Miami Dade clean air community partnership program as part of OOR's Resilient305 program and heat health work
- 2) Deploy instruments in a multi-sensor network (Ozone, PM_{2.5}, temperature and humidity) focusing on monitoring gaps and cumulative stressors.
- 3) Evaluate air quality data at stations co-located with regulatory grade instruments managed by the Miami-Dade County AQMD for comparability and appropriate use of these data.
- 4) Co-develop and launch the ***What's your 305 Air Quality?*** community activities, policy actions and communication strategy that integrates additional air quality data and potential disproportionate and adverse impacts of pollutants and cumulative multiple stressors at the census block group level.

This work will be carried out by an interdisciplinary team of experts in climate science, social science, ecology, and engineering, in partnership with the Miami-Dade County OOR, AQMD and the Chief Heat Officer, along with project partners within the Resilient305 Collaborative. Together, this collection of partners as well as monitoring resources and approaches bridges scales within Miami-Dade County, incorporating neighborhood and individual dimensions. By coupling regulatory grade EPA air quality instruments together with a meso-scale network of air quality monitoring sensors and easily deployable on-the-ground sensor citizen science-based observations, we will create a comprehensive dataset used to map and monitor the spatial attributes of air pollution and associated impacts. The value our proposed project brings to *EPA's Enhanced Air Quality Monitoring for Communities* program are three-fold. 1) The project will bring together community-based initiatives, collaborations, university institutions and non-profit organizations with aligned goals of overcoming environmental and health disparities to synergize a first of its kind Miami-Dade County clean air community partnership program, ***What's your 305 Air Quality?***. 2) The project will leverage multiple existing and new instrument and sensor networks to extend community-accessible air quality monitoring, with a focus on filling spatial gaps that lie in underserved communities. 3) The project will enable community members to engage in community monitoring that helps to illuminate potential disproportionate and adverse impacts related to differential proximity, exposure to and greater susceptibility to environmental hazards (while also taking into account cumulative impacts of multiple stressors). This application supports Goal 4 "Ensure Clean and Healthy Air for All Communities" Objective 4.1: "Improve Air Quality and Reduce Localized Pollution and Health Impacts" of EPA's Draft FY 2022-2026 Strategic Plan.

**Objective 1:
Establish the
What's your
305 Air
Quality?
Miami Dade
clean air
community
partnership
program as
part of OOR's
Resilient305
program and
heat health
work**

While Miami-Dade County has a large number of community organizations focused on community betterment and improved quality of life, community partnerships to promote awareness and education to protect citizens from poor air quality do not currently exist. With this EPA opportunity, and with our project partners, Miami-Dade County will leverage the work of the Chief Heat

Officer to foster a new clean air community partnership program. This program will create a pipeline connecting more accessible information about air quality and the tools and resources needed to protect community health, especially among our most vulnerable, environmental justice communities and underserved populations.

Task 1.1. Identify and expand project partnerships Each of the project partners within the Resilient305 Collaborative (Catalyst Miami, FIU and UM), along with Miami-Dade County's OOR, has deep community ties to launch a broader community partnership program. Organizational members that will be solicited as part of the partnership include those engaging the

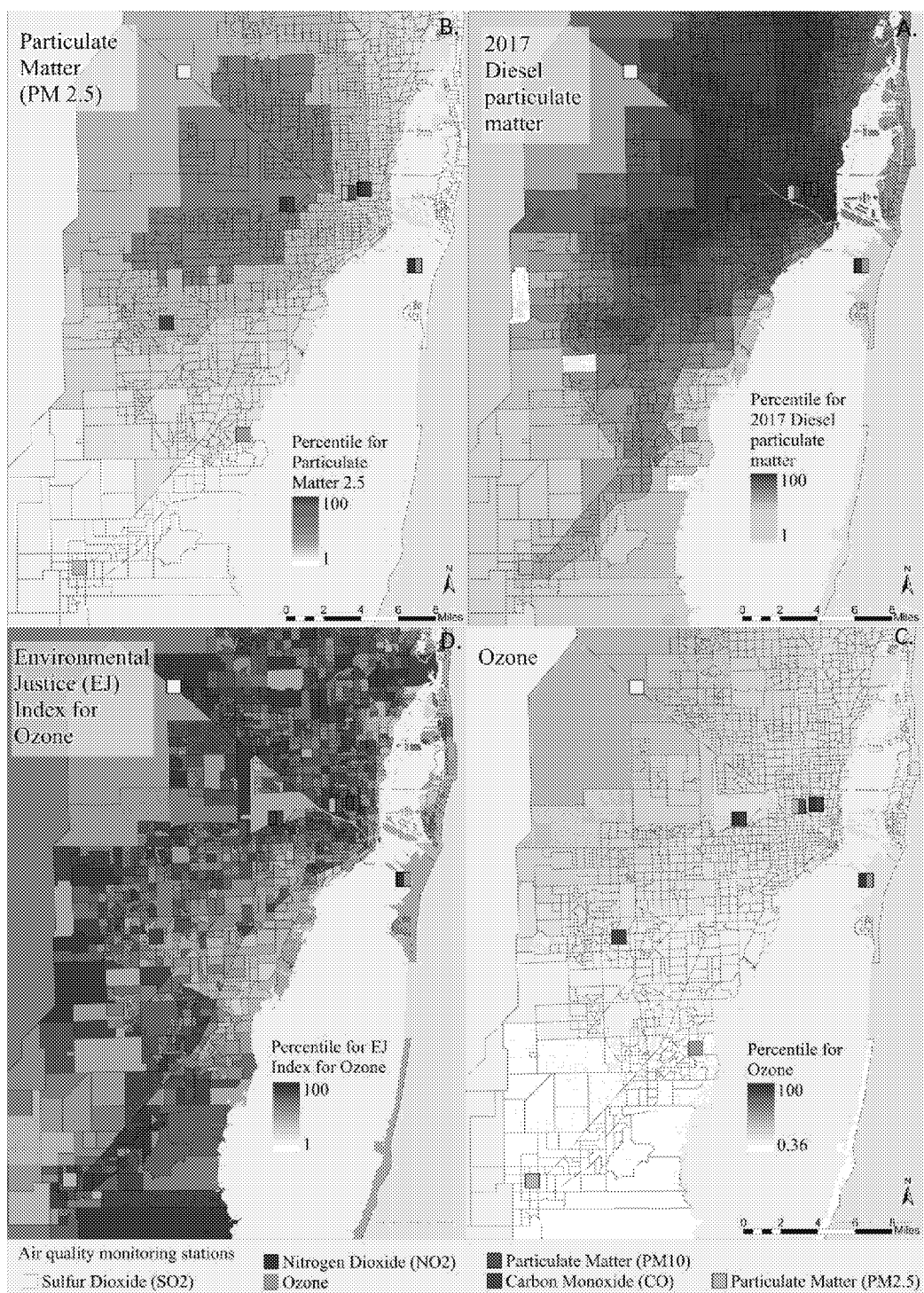


Figure 1. EJScreen maps of Miami-Dade County DERM air quality monitoring station locations and air quality in Miami-Dade County relative to US in percentile for pollutants A. diesel particulate matter (less than 2.5µm), B. PM_{2.5}, C. ozone and D. EJ index for ozone. Note DERM currently has two PM_{2.5} and two ozone instruments in

public on air quality issues, like the Florida Department of Environment Protection, to those organizations supporting climate awareness like the CLEO Institute, WeCount, and Healthy Little Havana, among others. We will identify a comprehensive list of potential member organizations and conduct a survey to compile information on their mission, goals and potential alignments with air quality and environmental justice communities. From this task, we expand partnerships to identify synergies that inform the potential specific goals, outputs and outcomes of a What's your 305 Air Quality? clean air community partnership program.

Task 1.2. Host a convening of What's your 305 Air Quality? Miami-Dade clean air community partnership program Based on information that outlines potential specific goals, outputs and outcomes of a What's your 305 Air Quality? Miami-Dade clean air community partnership program, we will host a convening among organizational participants, local leadership

and community members. This will allow attendees to engage with and directly assist in the design and performance assessment of the What's your 305 Air Quality? Miami-Dade clean air community partnership program. In this convening, we will report back the synergies we identified that foster alignment among the various organizations mission, goals and alignments with air quality and environmental justice communities to launch the activities conducted. Among those activities include a facilitated discussion of how EJ communities can be prioritized for air quality monitoring among those areas identified as current gaps. The outputs of this convening will be: 1) the vision, goals and strategy of the What's your 305 Air Quality? Miami-Dade clean air community partnership program and 2) criteria for prioritizing EJ communities for air quality monitoring. Our project partnership development and community goal setting will align with

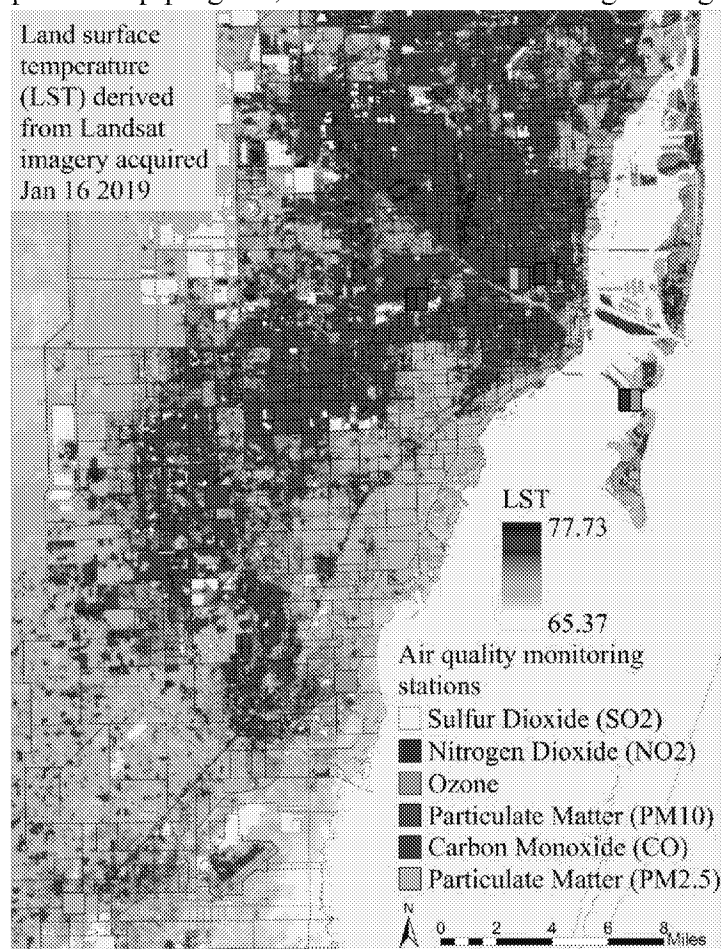


Figure 2. Current Miami-Dade air quality stations plotted on land surface temperature (F°) showing relatively warmer locations (in red) where cumulative impacts of air pollutants and heat may be significant. Note the large area of inland communities that incur high relative temperature with no existing air quality monitoring.

guidance set forth in EPA's 'Community Air Screening How-To Manual' (2004).

Objective 2: Deploy instruments in a multi-sensor network (Ozone, PM2.5, temperature, and humidity) focusing on monitoring gaps that co-occur with

vulnerable communities As part of EPA's air quality monitoring program, air quality is currently monitored by the Miami-Dade County AQMD. Across the over 2,000 square miles occupying Miami-Dade County, AQMD's network supports a number of monitoring stations, reporting on ozone in 2 locations and PM2.5 in 2 locations (Figure 1). Datasets compiled by EPA using the EJScreen tool suggest that current air quality monitoring stations may not capture data in areas where pollutants like DPM, PM2.5 and ozone have been reported to be within a high percentile relative to locations across the US (Figure 1, A-C), and that community vulnerabilities (percent low-income and percent people of color and total population of the block group; <https://www.epa.gov/ejscreen/what-ejscreen>) exacerbate exposure (Figure 1, A-C, left panel).

To extend available air quality data and understand how it compares with EPA regulatory instruments managed by the County, we will deploy instruments in a multi-sensor network and co-locate sensors with Miami-Dade County air quality instruments. The new, low-cost air quality sensors will be augmented by hyperlocal monitoring of temperature and humidity as part of our current Citizen Science Climate Action Network to link complementary community-based monitoring and address cumulative potential impacts from multiple stressors (e.g., air pollutants and heat; Figure 2).

Task 2.1. Establish a multi-sensor air quality monitoring network We will augment and extend DERM's Teledyne EPA regulatory standard air quality monitoring instruments with low-cost air quality sensors to monitor ozone, PM_{2.5}, temperature, and humidity. To monitor ozone, we will deploy an Aeroqual™ portable monitor (S500) and ozone sensor with fan sampling installed with a waterproof housing in conjunction with temperature and relative humidity sensors. Aeroqual sensors will be deployed along with a Purple air™ PM_{2.5} sensor (also equipped with temperature and humidity sensors). Twelve multi-sensor stations will be deployed, two co-located with AQMD's PM_{2.5} instruments and two co-located with AQMD's ozone instruments. The locations for the remaining 8 multi-sensor stations will be co-designed with partners of our *What's your 305 Air Quality?* Miami-Dade clean air community partnership program, aligned with EPA's 'Community Air Screening How-To Manual' (2004).

Objective 3: Evaluate air quality data at stations co-located with regulatory grade instruments managed by the Miami-Dade County AQMD for comparability and appropriate use of these data

Importantly, the utility of regulatory grade instruments, approved for air quality monitoring called for by the Clean Air Act is based on the premise that we cannot manage what we cannot monitor. Therefore, developing a comprehensive and systematically spaced network of air quality monitoring stations can help us fill critical data gaps and provide a better understanding of the spatial determinants of air pollution within Miami-Dade County. The EPA's role to solve multiple air pollution problems through programs based on the latest science and technology information can serve as a critical resource to identify and address environmental pollution trends, patterns, and spatial attributes. The use of regulatory-grade instruments ensures adequate technology, quality assurance, and quality control used to produce reliable data for efficiently and effectively managing air quality to protect human health.

Numerous advancements in technologies over the years make it possible to conduct the same or comparable monitoring and data collection for lower cost than the typically tens of thousands of dollars necessary for regulatory grade instruments. However, data from low-cost sensors need to be evaluated alongside information gathered by regulatory-grade sensors, and data integration and comparison methods need to be developed. Moreover, an agreeable method and appropriate use of those data need to be resolved among project partners to ensure appropriate, consistent use, accessible, and clear information-sharing with the public. With data from the new low-cost air quality sensors, we will evaluate the comparability and appropriate use of these data for community monitoring, awareness-building activities, and air quality mitigation, including for cumulative multiple stressors (pollutants and heat).

Task 3.1. Conduct time series and model comparisons to evaluate comparability and appropriate use of new air quality data After one year of monitoring data has been collected (~1.5 years after project start), we will work closely across our group of air quality and public health experts in the County and universities, as well as of the Chief Heat Officer and project partner Catalyst Miami, to evaluate comparability of the County's instruments with the low-cost sensor data. We will apply time series analyses and compute root mean square error to measure error of models constructed from data produced with regulatory-grade sensors and low-cost sensors. We will devise a minimum standard for appropriate use of low-cost sensor data for community monitoring and addressing potentially disproportionate and adverse impacts from environmental hazards including ozone, PM_{2.5}, and heat. We will also explore various techniques for air pollutant mapping (e.g., Li et al. 2020). A product we envision includes a dashboard that illustrates a spatially-localized version of the EPA's EJScreen Index for PM_{2.5} and ozone as a

companion link directed from the County's Resilient305 website.

Objective 4: Co-develop and launch What's your 305 Air Quality? community activities, policy actions and communication strategy that integrates new air quality data and potential disproportionate and adverse impacts of pollutants and cumulative multiple stressors at the census block group level

The differential proximity and exposure to environmental hazards can significantly impact minority, low-income communities further exacerbating social inequities and hindering their ability to cope with environmental and climate stressors. The synergistic impacts of extreme heat and poor air quality can exacerbate existing societal inequities, which can worsen existing vulnerabilities and strain available resources (Anguelovski et al., 2016). This further broadens the gap between the environmental impacts that communities must face and the resources available to them to cope with these impacts.

Task 4.1. Produce spatial datasets that explore the coincidence of multiple stressors and publicly available socioeconomic and health data at the census block group level The Resilient305 Collaborative has developed census block group level resilience metrics to understand variation in social, environmental, and technological resilience in Miami-Dade County (Troxler et al. 2021). Coupling these data with other publicly available health data from the US Census Bureau, we will develop community maps that improve our understanding of environmental health disparities related to air quality across Miami-Dade County. Census block groups characterizing neighborhoods will be ranked according to socioeconomic and health factors determined in community engagement activities, led by Catalyst Miami. Priority neighborhoods will be identified for community-level interventions to mitigate the impact of air pollutants and cumulative multiple stressors, employing guidance set forth in EPA's 'Community Air Screening How-To Manual' (2004).

Task 4.2 Co-develop and launch What's your 305 Air Quality? community activities, policy actions and communication strategy Participants from target communities will together, along with the project team, determine action plans and policy initiatives that reduce these environmental health inequities that historically have been incurred by environmental justice and underserved communities. These policy initiatives will be integrated within the work of the Chief Heat Officer and brings a new dimension to resilience building activities currently led by the Miami-Dade County OOR. We aim to promote opportunities for civic engagement, while informing residents of the importance of air quality monitoring and potential dangers associated with heat exposure coupled with air pollution. Through our approach we will facilitate community participation and involvement in activities that create mutual trust, promote climate advocacy, and strengthen community cohesion.

B. Project Significance The proposed project will successfully address environmental justice issues and will have multiple positive outcomes. First, our work will establish an air quality monitoring network which will effectively track and record changes in air quality across the urban gradient. This in turn will create a comprehensive picture of the spatial and temporal determinants of unhealthy air quality exposure and highlight areas that are disproportionately affected by coupled anthropogenic and climate hazards. Second, the proposed project will develop a network of partnerships between local, governmental and community members that will ensure that resilience strategies are developed with the input and contribution of marginalized communities that are affected by climate hazards and environmental pollution. This second outcome is important since resilient investments that lack hyperlocal community involvement and community values do not translate into effective, nor equitable climate adaptation solutions. Directing resources without a systematic framework in place can often result in skewed results and exacerbate vulnerabilities. There is a growing need for integrated approaches that align community priorities with strategies that build community resilience (Troxler et al., 2021). Therefore, Objective 4 previously described seeks to bridge the gap between the development and implementation of resources aimed to improve environmental quality and the communities that are the most exposed to hazards such as air pollution, and especially unhealthy air quality coupled with extreme heat. As such, this project

supports Goal 4 “Ensure Clean and Healthy Air for All Communities”, Objective 4.1: “Improve Air Quality and Reduce Localized Pollution and Health Impacts” of EPA’s Draft FY 2022-2026 Strategic Plan.

C. References - Allen, et al. 2009. The spatial relationship between traffic-generated air pollution and noise in 2 US cities. *Environmental Research*, 109(3), 334–342.; Anguelovski, et al. 2016. Equity Impacts of Urban Land Use Planning for Climate Adaptation: Critical Perspectives from the Global North and South. *Journal of Planning Education and Research*, 36(3), 333–348.; **California Air and Resource Board** 2022. Overview: Diesel Exhaust & Health.; **Community Air Screening How-To Manual**, A Step-by-Step Guide to Using Risk-Based Screening to Identify Priorities for Improving Outdoor Air Quality. 2004. US EPA (EPA 744-B-04-001), Washington, DC.; Douglas, et al. 2019. Ecological determinants of respiratory health: Examining associations between asthma emergency department visits, diesel particulate matter, and public parks and open space in Los Angeles, California. *Preventive Medicine Reports*, 14, 100855.; Fears, D. 2022. Redlining means 45 million Americans are breathing dirtier air, 50 years after it ended. *The Washington Post*.; Grigorieva, E., & Lukyanets, A. 2021. Combined Effect of Hot Weather and Outdoor Air Pollution on Respiratory Health: Literature Review. *Atmosphere*, 12(6), 790.; Kalisa, et al. 2018. Temperature and air pollution relationship during heatwaves in Birmingham, UK. *Sustainable Cities and Society*, 43, 111–120.; Lane, et al. 2022. Historical Redlining Is Associated with Present-Day Air Pollution Disparities in U.S. Cities. *Environmental Science & Technology Letters*, acs.estlett.1c01012.; Li, J., ..., P. Biswas. 2020. Integrating low-cost air quality sensor networks with fixed and satellite monitoring systems to study ground-level PM_{2.5}. *Atmospheric Environment* 223.; Liu, et al. 2019. Ambient Particulate Air Pollution and Daily Mortality in 652 Cities. *New England Journal of Medicine*, 381(8), 705–715.; Mohai, et al. 2009. Environmental Justice. *Annual Review of Environment and Resources*, 34(1), 405–430.; Pascal, et al. 2021. Extreme heat and acute air pollution episodes: A need for joint public health warnings? *Atmospheric Environment*, 249, 118249.; Ristovski, et al. 2012. Respiratory health effects of diesel particulate matter: Diesel particulate matter and health. *Respirology*, 17(2), 201–212.; Troxler, Clement, et al. 2021. A System for Resilience Learning: Developing a community-driven, multi-sector research approach for greater preparedness and resilience to long-term climate stressors and extreme events in the Miami metropolitan region. *Journal of Extreme Events* 8.; **US Environmental Protection Agency (EPA)**. 2021. Ground-level Ozone Pollution. Health Effects of Ozone Pollution.; **WHO**. 2016. Health risk assessment of air pollution – general principles. Copenhagen: WHO Regional Office.; Wedeen, S. 2022. The threat of environmental hazards to the rental stock. *Housing Perspectives*. Research, trends, and perspective from the Harvard Joint Center for Housing Studies.; **World Atlas**. 2022. What Are The Causes And Effects Of Ozone Air Pollution?

II. Community Involvement

A. Community Partnerships Miami-Dade County is the lead applicant with the project managed by the OOR in partnership with the AQMD and Chief Heat Officer. Among the resources Miami-Dade County brings to the partnership is both the applied work and expertise in resilience and air quality pollution, but also access to monitoring stations and entry points for mitigation interventions to address environmental hazards and cumulative impacts of multiple stressors on Environmental justice and underserved communities. Central among the project partners are the Resilient305 Collaborative and Catalyst Miami. One of Miami-Dade County OOR landmark collaborations is the Resilient305 Collaborative. The Resilient305 Collaborative has brought together over 60+ faculty (FIU, UM, and Miami Dade College), non-profit leaders, and our Greater Miami and the Beaches (GM&B) team (Miami, Miami Beach, and Miami-Dade County) to help us understand how to measure our resilience related projects. One of the main goals of the collaborative is to develop ways to enhance social, ecological and technological resilience to climate-related shocks and stressors, and build a more sustainable future. By understanding the spatial distribution of climate and anthropogenic hazards (extreme heat, air pollution) we can better utilize the resources provided by the Collaborative and address hyperlocal community needs, while

directing resources in areas that are the most vulnerable. Through this partnership, the Miami-Dade County OOR works very closely with local university partners and non-profit organizations to advance understanding and implementation of resilience activities. The Resilient305 Collaborative will manage the research and monitoring. Catalyst Miami will lead community engagement.

B. Community Engagement Our project partner Catalyst Miami will lead community engagement. Catalyst Miami will engage their non-profit organization partners including the CLEO Institute, WeCount, Miami Climate Alliance, and Live Healthy Little Havana, and alumni of their ongoing leadership training programs CLEAR, LIGHT, and HEAL (https://www.catalystmiami.org/policy_advocacy), to ensure broad community participation with respect to design and performance assessment of the monitoring network and What's your 305 Air Quality? program. This includes ensuring that: 1) data is reported back to the community on a regular basis in plain language, 2) the broader community is engaged on an action plan that informs policies to address environmental health disparities in air quality exposure, and 3) those policies move forward. The *What's your 305 Air Quality?* community program will be institutionalized as part of the Miami-Dade County Heat Health Task Force regular programming. We will also work to establish an internship program with AQMD and use the expanded air quality monitoring network to train and on-ramp university students for employment in air quality and environmental health, and for work in environmental justice and underserved communities. Community engagement is a key pillar in our proposed project since incorporating hyperlocal community priorities in the design of adaptive management strategies is essential in building resilience in the face of mounting social, economic and climate related stressors. At the same time, co-design and co-production of community engaged research is yet another important component of our work. Giving a voice to marginalized communities that are often forgotten within climate mitigation and land use planning schemes is essential in ensuring the development and implementation of equitable policies and local mitigation strategies.

III. Environmental Justice and Underserved Communities

Catalyst Miami is currently the foremost non-profit organization supporting the role of community driven change and integration of environmental and climate justice priorities in the development of climate adaptation solutions and resilient strategies. The organization recognizes and empowers community members as leaders in public decision-making, particularly with respect to issues that are central to their lives. Their inclusive policy and advocacy work enables deep community engagement to develop community-led programs that increase civic participation and resilience. Through this collective approach, participation from members of environmental justice and underserved communities is emphasized, and constituency-informed policy and system reforms are implemented. As such, their existing platform and community constituency well positions our project and its results to not only be delivered to support improved environmental health equity in environmental justice and underserved communities, but also directly enables those voices to be integrated into public decision-making to reduce these inequities.

IV. Environmental Results – Outcomes, Outputs, and Performance Measures

A. Expected Project Outputs and Outcomes The proposed project will fill essential data gaps in identifying the spatial characteristics of air pollution and will study the coupled effects of poor air quality and extreme heat exposure.

Key outputs include:

- 1) the What's your 305 Air Quality? Miami-Dade clean air community partnership, institutionalized as part of the GM&B Resilient305 Program and Miami-Dade County Heat Health Task Force,
- 2) an expanded multi-sensor network, designed by community members, prioritizing climate justice and equity concerns,
- 3) tools and spatial analyses that inform the use, communication and visual display of spatially-localized air quality indices for neighborhoods across Miami-Dade County, and

- 4) community-engaged air pollutant and cumulative stressors mitigation plans, policies and actions.

The proposed research will benefit underserved communities, resulting in short-term as well as long term positive impacts. *Short-term outcomes* include problem identification (highlighting the spatial attributes of air pollution) and increased community awareness (through the development of workshops and community engagement activities that educate the general public of the health impacts of air pollution). *Long-term outcomes* include the reduction of contaminants, and human exposure through directed policies and programs aimed at limiting and reducing particulate air pollution and regulating point source emitting facilities, particularly facilities located near underserved communities. The development of an air pollutant mitigation policies and actions that would limit and reduce toxic air pollutants is a critical outcome the long-term goal of improving air quality and curtailing pollution. The program defined in this proposal will contribute to this outcome. Furthermore, by engaging in a network of partnerships and community engagement activities we will leverage existing resources in documenting hyperlocal environmental hazards and developing community driven action plans. The proposed project will develop the data and platform needed to inform communities about the air and environmental quality parameters characteristics of their neighborhood.

A. Performance Measures and Plan We will evaluate progress and assess project performance through monthly meetings among our project partners. Tracking, measuring, and reporting accomplishments will be conducted every two weeks, and reported monthly, with adjustments made to ensure program effectiveness and success. Quarterly progress reports and a detailed final report will be submitted as required by EPA. Quarterly reports summarizing technical progress, planned activities for the next quarter and a summary of expenditures will be submitted. The final report will be submitted to EPA within 120 calendar days of the completion of the period of performance. The final report will include: summary of the project or activity, advances achieved and costs of the project or activity. In addition, the final report will discuss the problems, successes, and lessons learned from the project or activity to help overcome structural, organizational or technical obstacles to implementing a similar project elsewhere.

B. Timeline and Milestones The project we propose is 3 years. Tasks below fall under 1 of 4 Objectives described in project summary section.

#	Task	Year 1		Year 2		Year 3	
		Q1-Q2	Q3-Q4	Q1-Q2	Q3-Q4	Q1-Q2	Q3-Q4
1.1	Identify & expand partnerships	X					
1.2	Host community convenings	X					
2.1	Establish multi-sensor network	X	X				
3.1	Evaluate data comparability/use			X	X		
4.1	Spatial data analyses				X	X	
4.2	Co-develop and launch <i>What's your 305 Air Quality?</i> program				X	X	X

V. Quality Assurance Statement (see Attachment)

VI. Programmatic Capability and Past Performance

A. Past Performance Miami-Dade County has been the recipient of numerous funding awards from several federal agencies including the EPA, Department of Transportation (DOT), and the Department of Homeland Security (DHS). The Department of Regulatory and Economic Resources (RER) will serve as the fiscal agent for this application, is well adapt at managing EPA grants. RER has been a regular recipient of federal EPA funding assistance agreements for their air pollution and ambient air monitoring programs from the Environmental Protection Agency, for more than thirty-five (35) years. Two main programmatic agreements awarded each year, pursuant to the Clean Air Act, are EPA Section 105 and 103 (PM_{2.5}) Grants. MDC's active grant awards includes Grant ID 02D12321, started 8/18/2021 through 9/30/23 in the amount of \$2,000,000; Grant ID 01D06220, started 4/14/2021 through 9/30/22 in the amount of \$180,000; and Grant ID

402420, started 1/13/2022 through 09/30/2023 in the amount of \$985,966. Documentation including technical and financial reports, and documentation on achieving the expected outcomes and outputs of those projects are submitted under all the agreements executed with Miami-Dade County.

B. Reporting Requirements Miami-Dade County's RER has an extensive history of managing grant projects and will coordinate project implementation, reporting and management. RER works diligently to complete regular quarterly reports as scheduled, without errors or misrepresentation on all grant awards received from EPA (includes active grants listed above) and other federal agencies. Revisions to the Project Schedule and Timeline are updated as needed and the Final report is submitted and approved by EPA without reservations. Miami-Dade County will serve as fiscal agent for the Resilient305 Collaborative via The Miami Foundation (see attachment F). Subaward grantees will work with Miami-Dade County staff to submit quarterly reports as required and on time.

C. Staff Expertise Our Miami-Dade project staff include experts in community engagement, resilience planning and air quality monitoring/management. RER OOR has been involved with several planning projects where climate-related health risks were identified as a major issue for residents, particularly in underserved communities. Examples of these efforts include the MDC Sea Level Rise Strategy where OOR staff held workshops that reached over 500 residents; the MDC Little River Adaptation Action Area project where County staff interviewed over 30 local partners and residents. Please also see CVs and resumes of key staff, managers and key personnel attached as part of the application.

VII. Budget

A. Budget Detail

Line Item & Itemized Cost	EPA Funding Request
Personnel	
(1) K.Castillo, Manager (MDC OOR leveraged resource contribution)	
(2) TBD, Program Coordinator @ \$30.5/hr x 10hrs/wk x 156 wks Including 3% cost of living increase each year	\$49,095
TOTAL PERSONNEL	\$49,095
Fringe Benefits	
19% of salary and wages @ 19% x Total Personnel -Retirement, MICA, FICA, Group Life + Health + Dental Plan (\$14,000/per. x FTE + \$400/per. x FTE)	\$23,428
TOTAL FRINGE BENEFITS	\$23,428
Other	
Subaward Costs	\$427,465
TOTAL OTHER	\$427,465
Indirect Charges	\$0
TOTAL INDIRECT	\$0
TOTAL FUNDING	\$499,988
TOTAL PROJECT COST	\$499,988

B. Reasonableness of Cost Personnel: Castillo will serve as Program Manager. Castillo will be responsible for grant administration and project oversight. Her time is an in-kind contribution to the project, approximating 4hrs/wk for 156 weeks. A Program Coordinator to assist Castillo is budgeted at 10hrs/wk for 156 weeks **Fringe Benefits:** Fringe benefits for County employees are calculated as in the table above. **Other:** Subaward – Resilient305 Collaborative which is administered by The Miami Foundation - a. **Personnel:** Troxler (FIU) will lead field deployment and oversee field management of the monitoring station network, mentor Moanga (FIU) a postdoctoral associate, co-lead product development and What's your 305 Air Quality program development and support successful implementation of the project (3hr/mo in Years1-3, \$72/hr*).
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Olivas (FIU) will contribute to field deployment (1hr/mo, \$72/hr* in Years 1-3). A Project Partner Coordinator (FIU) will prepare documentation and products to ensure timely delivery of products and reporting materials to support the Program Manager (Castillo-MDC; 7hrs/wk in Years 1-3, \$17/hr*). A field manager will manage field maintenance and data management (10hr/wk in Years 1-3, \$21/hr*). Moanga will develop spatial products and analyses (10hr/wk in Years 1-3, \$29/hr*). Clement (UM) will co-lead product development and What's your 305 Air Quality program development and support successful implementation of the project (1hr/wk in Years 1-3, \$96/hr*). Gaston (UM) and Biswas (UM) will contribute air quality expertise, contribute to product development and What's your 305 Air Quality program development, and co-mentor project staff (0.5hr/wk each in Years 1-3, \$96/hr*). A second postdoctoral associate (UM) will support field management and product development (7hr/wk in Years 1&3, 20hr/wk in Year 2 \$29/hr*). Adefris (Catalyst Miami) will lead community engagement (10hr/wk in Years 1-3, \$24/hr*). *All hourly rates include 3% cost of living increase in Years 2 and 3. b. *Fringe* (\$87,431): Fringe rates at FIU and UM are estimated as 36% for faculty, 55% for staff, and 10% for graduate student research assistant. Fringe rates at Catalyst Miami are estimated at 40% for staff. c. *Field Travel* (\$5,600): Field travel for field management of monitoring stations is estimated at \$100/day for vehicle rental at 24 days in Year 1, and 16 days in Years 2 & 3. d. *Indirect Charges* (\$28,411): The Miami Foundation who administers the Resilient305 Collaborative Fund charges an 8% Administrative Fee on Direct Charges of \$355,134. Supplies - Supplies include the purchase of 12 ozone monitoring stations and 12 temperature/RH/PM_{2.5} sensors (PurpleAir™). Each ozone monitoring station (\$3375 each) includes Aeroqual™ industrial enclosure (\$375), calibration accessory (\$200), portable monitor model S500 (\$1015), lithium battery (\$115), ozone ultra-low sensor (0-0.15ppm), fan-sampling (\$405), outdoor pack (\$650), internal temp/RH sensor (\$115), solar panel (\$250), and cables/consumables (\$250). **Indirect Charges:** \$0

C. Expenditure of Awarded Funds We have established project team roles and responsibilities to ensure timely and efficient expenditure of awarded funds. A memorandum of understanding and subgrant agreement to the administrator of the Collaborative will be drafted and approved to execute this grant. The Project Partner Coordinator, supporting the Resilient305 Collaborative, will prepare reports and documentation from project partners 1-2 months in advance of required reporting schedule for adequate review and processing by the Program Coordinator and submission to EPA by the Program Manager. Standing coordination calls, scheduled every two weeks between Project Partner Coordinator and Program Coordinator, will serve to keep the project on task for timely and efficient expenditure of awarded funds. Outputs of these meetings will be a report of progress to the project team with checklists of scheduled, completed, and pending tasks, along with correction plan if tasks are not accomplished as scheduled, to ensure timely invoicing and expenditure of awarded funds.

Miami-Dade County & Resilient305 Collaborative

**Promoting community-based air quality
monitoring partnerships to overcome
environmental and health disparities in
Miami-Dade County**

ATTACHMENT A
EPA Compliance Review

*Memorandum from
Miami-Dade County
Human Rights and Fair Employment Practices Division
with enclosures*

MEMORANDUM



Date: March 18, 2022

To: Mark Roberts, Environmental Resources Project Supervisor
Air Quality Management Division
Department of Regulatory and Economic Resources

From: Erin A. New, Division Director *Erin A. New*
Human Rights & Fair Employment Practices

Subject: EPA Compliance Review

The Human Rights and Fair Employment Practices Division (HRFEP) of the Human Resources Department has completed its research in response to your request for information regarding internal complaints of discrimination. Our response to your request is as follows:

List of all administrative complaints pending against the applicant/recipient that alleged discrimination based on race, gender, national origin, color, disability, sexual orientation, age, religion, or retaliation.

Miami-Dade County has approximately 29,500 employees and 25 departments. As of December 31, 2021, HRFEP had 83 open/pending internal complaints of discrimination against 20 County departments and/or County agencies. Of the 83 complaints, 67 were specifically related to the protected characteristics listed above. Of those, 24 allege discrimination based on race; 14 allege discrimination based on gender; 6 allege discrimination based on national origin; 8 allege discrimination based on color; 15 allege discrimination based on disability; 3 allege discrimination based on sexual orientation; 3 allege discrimination based on age; 3 allege discrimination based on religion, and; 37 allege discrimination based on retaliation. Please note that more individual categories are noted than pending complaints as some Complainants alleged more than one protected category. **See the attached list of pending complaints for further information.**

List all administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective action taken.

HRFEP made six (6) cause findings of discrimination within the last year. As a result of the findings, HRFEP recommended having a Respondent participate in anger management and sexual harassment courses and having a department participate in the Workplace Civility & Respect training, among others. A further recommendation was made to ensure that IO 7-45 was circulated and posted in a conspicuous location for employees to review.

List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last three years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken.

As of March 15, 2021, no compliance reviews have been completed.

Miami-Dade County															
Human Rights and Fair Employment Practices (HRFEP)															
HRFEP Total Number of Open Complaints (83) as of December 31, 2021															
Claim	Status	Intake	Respondent	Race	Color	Gender	Natl Org	Religion	Pregnancy	Sex Orien	Age	Disability	Retaliation	Other	
I-7533	Open	5/16/2019	Elections	X											
I-7828	Open	10/4/2019	Miami-Dade Corrections and Rehabilitation	X											
I-7884	Open	10/28/2019	Miami-Dade Seaport Department									X			
I-7941	Open	12/20/2019	DTPW	X	X										
I-8068	Open	3/5/2020	Miami-Dade Corrections and Rehabilitation												X
I-8211	Open	6/17/2020	Parks, Recreation & Open Spaces									X			
I-8262	Open	7/7/2020	Miami-Dade Corrections and Rehabilitation			X									
I-8492	Open	11/2/2020	Miami-Dade Police Department			X									
I-8494	Open	11/6/2020	Parks, Recreation & Open Spaces						X				X	X	
I-8496	Open	11/7/2020	Regulatory And Economic Resources					X					X		
I-8498	Open	10/26/2020	Water & Sewer Department	X			X								
I-8513	Open	11/19/2020	Parks, Recreation & Open Spaces										X		
I-8542	Open	12/7/2020	Regulatory And Economic Resources												X
I-8576	Open	1/13/2021	Parks, Recreation & Open Spaces	X			X				X	X	X		
I-8607	Open	1/19/2021	DTPW										X		
I-8617	Open	2/1/2021	Community Action & Human Services									X	X		
I-8640	Open	2/17/2021	Department Of Solid Waste Management							X					
I-8642	Open	2/21/2021	Department Of Solid Waste Management									X			
I-8682	Open	3/25/2021	Department Of Solid Waste Management	X			X						X		
I-8689	Open	3/15/2021	Miami-Dade Corrections and Rehabilitation	X							X	X	X		
I-8718	Open	3/25/2021	Department Of Solid Waste Management												X
I-8738	Open	4/20/2021	Water & Sewer Department			X									
I-8741	Open	4/23/2021	Miami-Dade Corrections and Rehabilitation	X		X							X		
I-8754	Open	5/3/2021	Miami-Dade Seaport Department			X									
I-8760	Open	5/10/2021	Miami-Dade Fire Rescue												X
I-8771	Open	5/19/2021	DTPW			X									
I-8773	Open	5/20/2021	Miami-Dade Library										X		
I-8774	Open	5/21/2021	Medical Examiner Department			X									
I-8775	Open	5/23/2021	Community Action & Human Services					X							
I-8777	Open	5/24/2021	Parks, Recreation & Open Spaces								X	X			
I-8778	Open	5/25/2021	Department Of Solid Waste Management										X		
I-8802	Open	6/4/2021	DTPW									X			
I-8808	Open	6/9/2021	Careersource South Florida									X			
I-8836	Open	6/18/2021	DTPW									X			
I-8838	Open	6/24/2021	Miami-Dade Corrections and Rehabilitation	X									X		
I-8839	Open	6/28/2021	DTPW										X		
I-8841	Open	6/28/2021	Tax Collectors Office	X									X		
I-8865	Open	7/6/2021	Water & Sewer Department	X	X		X	X							
I-8872	Open	7/20/2021	Community Action & Human Services				X								
I-8892	Open	8/17/2021	Community Action & Human Services												X
I-8894	Open	8/19/2021	Miami-Dade Aviation Department												X
I-8895	Open	8/19/2021	DTPW	X	X						X				
I-8900	Open	8/25/2021	Parks, Recreation & Open Spaces												X
I-8903	Open	8/30/2021	Miami-Dade Police Department												
I-8910	Open	9/7/2021	Water & Sewer Department										X		
I-8914	Open	9/8/2021	Parks, Recreation & Open Spaces												
I-8916	Open	9/8/2021	Parks, Recreation & Open Spaces												X
I-8917	Open	9/9/2021	Finance Department	X			X				X				
I-8919	Open	9/8/2021	Parks, Recreation & Open Spaces										X		
I-8920	Open	9/8/2021	Parks, Recreation & Open Spaces			X									
I-8921	Open	9/10/2021	Parks, Recreation & Open Spaces						X			X	X		
I-8922	Open	9/10/2021	Parks, Recreation & Open Spaces	X	X	X						X			
I-8943	Open	9/17/2021	Parks, Recreation & Open Spaces	X		X				X			X		
I-8944	Open	9/20/2021	Parks, Recreation & Open Spaces										X		
I-8965	Open	9/29/2021	Water & Sewer Department										X	X	
I-8968	Open	10/18/2021	Miami-Dade Corrections and Rehabilitation	X		X							X	X	
I-8971	Open	9/2/2021	Internal Services Department										X		
I-8975	Open	10/5/2021	DTPW										X		
I-8979	Open	10/4/2021	DTPW												X
I-8980	Open	10/6/2021	Department Of Solid Waste Management										X		
I-8981	Open	10/6/2021	Miami-Dade Corrections and Rehabilitation	X									X		
I-8982	Open	10/6/2021	Miami-Dade Property Appraiser	X									X		
I-8990	Open	10/8/2021	Internal Services Department									X	X		
I-8991	Open	10/8/2021	Parks, Recreation & Open Spaces										X		
I-8992	Open	10/8/2021	Parks, Recreation & Open Spaces	X								X			
I-8993	Open	10/8/2021	Parks, Recreation & Open Spaces	X	X										
I-8998	Open	10/13/2021	Internal Services Department	X	X										
I-9003	Open	10/15/2021	Miami-Dade Aviation Department								X				
I-9014	Open	11/1/2021	Miami-Dade Aviation Department			X					X				
I-9017	Open	10/25/2021	Miami-Dade Police Department			X							X		
I-9022	Open	10/27/2021	Miami-Dade Police Department												X
I-9036	Open	10/22/2021	Miami-Dade Corrections and Rehabilitation	X	X	X									
I-9037	Open	10/28/2021	DTPW	X									X		
I-9043	Open	11/1/2021	Community Action & Human Services							X					
I-9060	Open	11/18/2021	DTPW												
I-9063	Open	11/16/2021	DTPW										X		
I-9066	Open	11/24/2021	Internal Services Department	X	X										
I-9069	Open	11/24/2021	Regulatory And Economic Resources												X
I-9078	Open	12/9/2021	Miami-Dade Corrections and Rehabilitation										X		
I-9092	Open	10/24/2021	PCHD										X		
I-9102	Open	12/15/2021	Miami-Dade Seaport Department										X		
I-9109	Open	12/16/2021	Miami-Dade Corrections and Rehabilitation										X		
I-9128	Open	12/16/2021	Parks, Recreation & Open Spaces										X		

Enclosure(s)

Memorandum



Date:

To: Antonio Cotarelo, P.E., Deputy Director
Miami-Dade Water and Sewer Department

From: *Timothy R. Saller*
Timothy R. Saller, Chief
W&S Labor Relations Division

Subject: Anonymous Complaint – Security and Communications Division

BACKGROUND:

This investigation summary is the result of an anonymous complaint concerning a hostile work environment and "bullying" at the Miami-Dade Water and Sewer Department (WASD) Security & Communications Division.

The complaint summary:

The anonymous complainant believes that management has created a hostile working environment where Management bullies staff and they (management) are very aggressive.

FINDINGS:

As a result of the anonymous complaint, this office investigated the allegations of the Security and Communications Division's possible "hostile work environment" and interviewed the entire Security and Communications Division. Below are the questions and responses that each employee was asked:

This office interviewed several staff members of the Security and Communication Division, including supervisors.

Examples of statements from staff interviewed:

One employee stated it was a toxic work environment.

Two employees stated, they felt threatened.

Three employees stated, they felt disrespected by their supervisor.

Three employees stated that it was a "Good 'ole boy" environment.

Three employees stated, they do not feel comfortable working in the division.

Four employees stated, they felt harassed.

Four employees stated they felt that the division is a hostile work environment.

Five employees felt there was a lack of direction and communication from

management.

Some employees felt that they could not discuss their problems with management.

Additionally, during this investigation employees mentioned that they are discouraged from sending emails regarding problems or issues. The Chief is unresponsive to email communications and he does not want anything on record.

Below are the questions and responses:

1. Who is your supervisor?
2. Has anyone in a supervisory capacity displayed behavior that you would consider inappropriate or aggressive?

Response: Of the 34 employees interviewed, twelve employees responded, "Yes, to supervisor displaying behavior considered inappropriate or aggressive. Two employees stated that there is an abuse of power. One employee stated the rules only apply to some people.

3. Have you personally observed a supervisor yelling or cursing? If so, who and what was said?

Response: Of the 34 employees interviewed, six employees stated, Yes, they have personally witnessed a supervisor yelling or cursing.

4. Did anyone else witness the incident?

Response: Of the 34 employees interviewed, six employees stated they had witnessed an incident.

5. Has any supervisor threatened you? If so, please describe the incident. Any witnesses?

Response: Of the 34 employees interviewed, three employees stated they felt threatened.

6. Do you know of any similar incidents involving other people?

Response: All 34 employees said No.

7. Do you have any notes or documents relating to the incident?

Response: All 34 employees said No.

As a result of the complaint, the management staff of the Security and Communications Division was contacted and questioned:

1. What are your procedures on how to handle employee complaints?

Response: We have an Open-door policy. Employees are aware that they can go through their chain-of-command. Complaints should be referred to the Division Chief. There are no written procedures for the division.

2. When some employees have requested an explanation or clarification regarding policies they have been advised "That's just the way it is." Or "Things are gonna be done this way." Do you have any written Divisional Policy and Procedures? If so, how are they disseminated to employees?

Response: Yes, we do. Certain areas have a Standard Operating Procedure (SOP). The Division was merged and is in the process of creating one SOP. We try to be fair and equitable with all employees.

3. Are you aware of supervisors making any inappropriate or aggressive remarks to employees?

Response: Two respondents said no and two were aware of such remarks.

4. How do you handle complaints of inappropriate behavior?

Response: Open-door policy, and we try to address it directly. Try to follow County policy and we try to address it directly, but everyone is afraid to say something.

5. Some of your staff have stated that they have been instructed not to email information so that there is no official record of this documentation. Please explain.

Response: Employees are encouraged to go through their chain-of-command. Send to the proper channels, it is a common courtesy.

6. Some of your staff have stated that there is confusion regarding the "chain-of-command". Do you have a Table of Organization? Please explain the reporting structure.

Response: The Table of Organization is brand new, and we will be issuing in a few days to everyone.

7. Some employees have advised of intimidating behavior by supervisors. Are you aware any instances of bullying by management staff? If so, how was it handled? What was the outcome?

Response: No knowledge. Not aware and do not condone it.

8. Have you received any complaints of a hostile work environment? Or similar actions? If so, what actions did you take?

Response: Have not received any comments of a hostile work environment. Some employees have issues that are self-serving (beat the system). Will not tolerate it.

9. Earlier this year surveillance cameras were installed in your area. What was the purpose of this?

Response: We have a storeroom where supplies are stored, such as Personal protection equipment (PPE). Some PPE went missing, so we installed a camera where the doors and the side corridors are to secure the area.

10. Some employees have stated that they have encountered issues receiving office supplies and uniforms. Is there a policy or procedure that explains the process to your employees?

Response: Employees just need to request it. Supplies are issued as needed.

11. Is it a practice to allow employees to work during lunch hour?

Response: No, advised by Human Resources that this is not an acceptable practice. Meal ticket allowance for OT.

12. Do you have any comments you would like to add?

Response: We have an open-door policy. They ask employees to give them a chance to address concerns.

CONCLUSION:

Based on the information obtained during this investigation the evidence indicates that the management has not addressed issues of unprofessional and inappropriate behavior, which has played a role in the deterioration of the office working environment. Additionally, there is evidence to support the complaint that Security and Communications management staff has created a hostile working environment.

It is important to mention that as members of management, they are held to a higher standard. They should be mindful of their actions and explore other avenues of expression when communicating with staff. Additionally, management should take immediate or remedial action to ensure that employees understand the difference between unlawful harassing conduct and reasonable management action and/or disrespectful behavior that is not based on a protected characteristic, which may warrant further managerial review.

In accordance with the Implementing Order 7-45, all County employees are to conduct themselves in a manner that demonstrates professionalism and respect for others in the workplace.

RECOMMENDATIONS:

1. This office recommends that the Security and Communications Division attend and successfully complete a group training conducted by the W&S Human Resources and Support Services Training Section:

- Professional Workplace Communications 3.5 hrs
- Virtual Team Building Program
- I.O. 7-45 Training - Unlawful Workplace Harassment & Discrimination 3 hrs

2. Based on the findings of this investigation, Mr. Johnson, Mr. Garcia, and Mr. Robainas should receive some form of administrative action.

I have reviewed the finding of the investigative report prepared by the Labor Relations Division.

As a result of this review, I have made the following decision:

Mark box below:

✓ I concur (with the submitted recommendations). *SEE ADDITIONAL COMMENTS BELOW.*

 I do not concur; I have decided to make an alternate decision (as indicated below).

THE ENTIRE DIVISION INCLUDING MANAGEMENT SHOULD BE REQUIRED TO ATTEND THE 3 COURSES SUGGESTED ABOVE. ADDITIONALLY, MANAGEMENT MUST ALSO TAKE COURSES ON PROFESSIONAL COMMUNICATION AT THE WORKPLACE, CONFLICT RESOLUTION AND SUCCESSFULLY COMPLETE A SUPERVISORY CERTIFICATION.

[Signature]
Antonio Cotarelo, P.E., Deputy Director
Miami-Dade Water & Sewer Department

4/21/2021
Date

Memorandum



DATE: June 11, 2021

TO: Erin A. New
Division Director, Human Rights & Fair Employment
Human Resources Department

FROM: 
Carmen Baker
Deputy Director, Internal Services and Administration

SUBJECT: Final Decision: Investigation Security & Communication

As discussed, the attached final report has been reviewed and has my concurrence regarding the actions set forth in the report. Therefore, listed below are the actions which have been implemented:

- Security & Communications Division was moved from Operations to Administration (under my purview).
- Security & Communications Division Senior Management have been verbally counseled, and performance is being closely monitored.
- Ms. Elizabeth Perez-Gordon accepted a voluntarily transfer (lateral) to the Meter Maintenance & Installation Division.
- Ms. Tina Nessler mutually agreed to be transferred (lateral) to the Security & Communications Division from the Meter Maintenance & Installation Division.
- One employee has received a promotion during the investigation and is no longer in the division.
- Senior Management will be required to attend and successfully complete the following training:
 - ***Unlawful Workplace Harassment & Discrimination (I.O. 7-45)***
 - ***Professional Workplace Communications***
 - ***Virtual Team Building Program***
 - ***Supervisory Certification***

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Fina Decision: Investigation Security & Communication

Additionally, Management will coordinate with WASD Human Resources to ensure compliance.

If you have any questions, please contact me. Thank you.

C: Roy Coley, Director

Cristine M. Gonzalez, Chief, Human Resources Division

Annette Perez-Ruiz, HR Manager

Jacqueline Dana, Senior HRFEP Specialist


Attachment

Memorandum



Date: February 14, 2022

To: Roy Coley, Director
Water & Sewer Department

From: Arleene Cuellar, Director 
Human Resources Department

Subject: Findings & Recommendations Related to Multiple Complaints in the Security & Communications Division

On September 22, 2020, Jorge Ferrer, Utilities Damage Investigator, filed a complaint with the Human Rights and Fair Employment Practices Division (HRFEP), alleging Aubrey Johnson, Security Chief; Marcelo Garcia, Security Manager; and Luis Robainas, Security Supervisor; Security and Communications Division, Water and Sewer Department (WASD), subjected him to harassment and retaliation. On September 23, 2020, Alberto Pita, Complaint Intake Specialist, filed a complaint with HRFEP alleging Mr. Garcia subjected him to disability discrimination. Furthermore, on February 6, 2021, Elizabeth Perez-Gordon, Operations Coordinator, filed a complaint with HRFEP alleging Mr. Robainas subjected her to sexual harassment.

As part of HRFEP's investigation into these three separate complaints, the department was contacted to provide input. The department offered that they conducted their own investigation, which substantiated that the Security and Communications Division management staff, which includes Chief Johnson, Mr. Garcia, and Mr. Robainas, subjected employees to a hostile work environment. However, a review of the department's Investigative Report (Attachment A) and Final Decision (Attachment B) revealed that no formal disciplinary action was taken to appropriately address management staff's behavior and blatantly harassing workplace conduct, which constitutes a direct violation of Implementing Order 7-45.

Furthermore, as part of HRFEP's investigation of Ms. Perez-Gordon's sexual harassment complaint, fourteen (14) employees and Mr. Robainas were interviewed. Mr. Robainas denied all allegations that he had engaged in any unlawful discriminatory or harassing conduct. However, during the investigation, witnesses provided credible testimony that Mr. Robainas engaged in inappropriate workplace conduct, including conduct of a sexual nature, in his interactions with employees in the department. This conduct is inappropriate and unbecoming of a County employee and constitutes a violation of Implementing Order 7-45.

Accordingly, it is recommended the department take formal corrective and disciplinary action to appropriately address Chief Johnson, Mr. Garcia, and Mr. Robainas' workplace conduct. Please contact the Labor Relations Section at (305)375-4171 to discuss the appropriate level of discipline.

Additionally, it is also recommended that WASD ensure that all employees in the Security and Communications Division complete the Workplace Civility & Respect and Preventing Sexual Harassment training courses within 90 days from the date of this memo.

We request that WASD provide HRFEP with its plan to implement this recommendation within 30 days of the date of this memorandum. You may also contact Erin A. New, Division Director, Human Rights and Fair Employment Practices, at (305) 375-4740 or via email at Erin.New@miamidade.gov if you have any questions.

Attachments

- c: Rahel Weldeyesus, Senior Advisor for Innovation and Performance, Office of the Mayor
- Jimmy Morales, Chief Operations Officer, Office of the Mayor
- Jason Smith, Director, Office of Equity and Inclusion
- Carmen Baker, Deputy Director, Internal Services and Administration, W&S
- Cristine M. Gonzalez, Chief, Human Resources & Employee Engagement, W&S
- Shelly-Ann-Davidson, HR Manager, Human Resources & Employee Engagement, W&S
- Tyrone W. Williams, Division Director, Labor Relations & Employee Records, HR
- Erin New, Division Director, Human Rights and Fair Employment Practices, HR

MEMORANDUM



Date: August 5, 2021

To: Eulois Cleckley, Director
Department of Transportation and Public Works

From: Arleene Cuellar, Director
Human Resources Department

Subject: Tabitha Gibson, Bianca Bell and Naky Aty
Investigative Findings and Recommendations

On March 26, 2021, Tabitha Gibson, former Bus Operator, filed a sexual harassment complaint with the Human Rights and Fair Employment Practices Division (HRFEP). Bianca Bell, former Bus Operator and Naky Aty, Bus Operator, also filed complaints of sexual harassment with HRFEP on April 16, 2021 and June 10, 2021, respectively. The subject of their complaints is Kevin Craig (male), Chief Shop Steward, Transit Workers Union (TWU) 291.

In their complaints, Ms. Gibson, Ms. Bell, and Ms. Aty alleged they were subjected to unwelcome inappropriate sexual advances and sexually charged comments by Mr. Craig.

As part of HRFEP's investigation, twenty-three (23) employees were interviewed. Mr. Craig adamantly denied all allegations that he had engaged in any unlawful discriminatory or harassing conduct. However, during the investigation, six (6) witnesses provided credible testimony that Mr. Craig engaged in conduct of a sexual nature in his interactions with female employees in the department. This conduct is inappropriate and unbecoming of a County employee and constitutes a violation of Miami-Dade County Implementing Order (IO) No. 7-45.

Accordingly, it is recommended the department take formal corrective action to address Mr. Craig's inappropriate workplace conduct. Please contact the Tyrone W. Williams, Division Director, Labor Relations and Employee Records at (305) 375-4171 to discuss the appropriate level of discipline.

Additionally, it appears that the culture among this specific workplace is one where employees tolerate inappropriate workplace behavior without complaint for fear of retaliation and a "that's the way it is" mentality. Therefore, it is further recommended that the department provide substantive training on sexual harassment, civility and respect, and workplace appropriate behavior within 90 days from the date of this memorandum.

Furthermore, this investigation revealed concerning deficiencies and inconsistencies with best practices in the department's Civil Rights and Labor Relations investigation of a previous complaint of sexual harassment filed against Mr. Craig. Therefore, it is strongly recommended that the department reevaluate its internal process and procedures, and receive training, to ensure that internal investigations are thorough and unbiased.

We request that Department of Transportation & Public Works (DTPW) provide HRFEP with an update as to its plan to implement these recommendations within 30 days of the date of this memorandum. You may also contact Erin A. New, Division Director, Human Rights and Fair Employment Practices, at (305) 375-4740, or via email at erin.new@miamidade.gov, if you have any questions or would like to schedule training.

c: Jimmy Morales, Chief Operations Officer
Rahel Weldeyesus, Senior Advisor for Innovation and Performance, Office of the Mayor
James Rowan, Chief, Civil Rights and Labor Relations, DTPW
Jennifer Walker, Chief, Human Resources, DTPW
Tyrone W. Williams, Division Director, Labor Relations and Employee Records
Erin New, Division Director, Human Rights and Fair Employment Practices

Miami-Dade County & Resilient305 Collaborative

**Promoting community-based air quality
monitoring partnerships to overcome
environmental and health disparities in
Miami-Dade County**

ATTACHMENT B
Partnership Letters

Chair:

Damian D. Daley

Vice Chair:

Mary Casey

Secretary:

Korene Stuart

Treasurer:

Charmel Maynard

Directors:

Charles M. Auslander
D. Marcus Braswell, Jr.
Francoise Cham
Joaquin Dulitzky
Melanie Garman
Melanie Hapner
Jason R. Kaye
Nyame Nti Aya Nsibienakou-
Fawohodie
Daniel Tramel Stabile
Gina Ciraldo Stabile
Marjorie York

CEO:

Gretchen Beesing

Former Chairs:

Alicia Apfel
Shirley Aron
Laura Atkins
D. Marcus Braswell, Jr.
Judith Bunker
Esther Castiglia
Jacqui Colyer
Cornell Crews
Susan Jay
Honorable Betty Metcalf
Claire Raley
Edward Soto
Gina Ciraldo Stabile
Charles M. Auslander

Founding Executive**Director:**

Daniella Levine Cava

To: EPA

From: Catalyst Miami, Zelalem Adefris, VP of Policy & Advocacy

If the proposal submitted by Miami-Dade County's Office of Resilience entitled "Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in Miami-Dade County is selected for funding by EPA, it is our intent to collaborate and commit resources as detailed in the proposal.

Signed: *Zelalem Adefris*

Organization: Catalyst Miami

Date: March 22, 2022



Office of Air and Radiation
Office of Program Management Operations
U.S. Environmental Protection Agency

Dear Mr. Roberts,

If the proposal submitted by Miami-Dade County's Office of Resilience entitled "Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in Miami-Dade County" is selected for funding by EPA, it is our intent to collaborate and commit resources as detailed in the proposal.

Should you have any questions, please don't hesitate to contact Dr. Troxler at 305-348-1571 or Dr. Clement at 305-421-4846. Your consideration is greatly appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tiffany Troxler'.

Dr. Tiffany Troxler, co-Director
Resilient305 Collaborative,
Associate Professor,
Florida International University

A handwritten signature in black ink, appearing to read 'Amy Clement'.

Dr. Amy Clement, Co-Director
Resilient305 Collaborative
Professor, University of Miami



March 23, 2022

Ref: Letter of Collaboration between the Miami Dade County Air Quality Management of the Division of Environmental Resources Management (DERM) and the Miami Dade County Office of Resilience.

Project Title: Promoting community-based air quality monitoring partnerships to overcome environmental and health disparities in the Miami Dade County

The Miami-Dade County, Air Quality Management (AQMD) of the Division of Environmental Resources Management (DERM) acts on behalf of the Florida Department of Environmental Protection (FDEP) as an approved local air pollution control program. Both parties work together according to the provisions of Section 403.182, Florida Statutes (F.S.). The air programs for major stationary air sources in Miami-Dade County are implemented in accordance with the existing Specific Operating Agreement, the Section 105 EPA Air Planning Agreement, and the General Operating Agreement.

The AQMD has a team of professionals, and administrative staff to perform the functions under the terms of these agreements, which include the processing, analyzing, verifying, interpreting and quantifying ambient air quality monitoring data that is being collected for five of the six nationally regulated pollutants. The AQMD maintains its own EPA credited ambient air monitoring network and conducts daily air quality forecasting throughout Miami-Dade County, while complying with all data collection and reporting requirements.

For more than 36 years, Miami-Dade County has been performing this type of work, with a team of technicians, professionals, and other support staff who collectively have over 90 years of experience. Staff are trained by the FDEP and the USEPA in sample collection, ambient air quality data analysis, troubleshooting and repair of technically complex sophisticated equipment.

Miami-Dade County is pleased to offer this letter of collaboration in support of the grant application being submitted by the Miami Dade County Office of Resilience, and will be willing to assist, providing access to the Ozone and Particulate Matter sites in order to collocate with the proposed low-cost air quality sensors for data comparability.

By collaborating and offering support, with the collocation of the low-cost air quality sensors with our ambient air monitoring sites, we expect that additional information becomes available about impacts of atmospheric drivers and air pollutants that affect the County's environmental justice communities. The results of this study may provide additional information in evaluating the source of emissions of particulate matter and the formation of ground level ozone in these areas.

Please feel free to contact our office with any comments or questions,

Best regards,

Digitally signed by
Susana Palomino
Date: 2022.03.23
15:19:09 -04'00'

Susana Palomino, P.E., Chief
Air Quality Management
Division of Environmental Resources Management
Department of Regulatory & Economic Resources
Miami-Dade County

Miami-Dade County & Resilient305 Collaborative

**Promoting community-based air quality
monitoring partnerships to overcome
environmental and health disparities in
Miami-Dade County**

ATTACHMENT C
Proof of Nonprofit Status

IRS Tax Exemption Letter

COPY

Internal Revenue Service

Date: December 21, 2005

COUNTY OF DADE
BOARD OF COUNTY COMMISSIONERS
111 NW 1ST ST SUITE 2620
MIAMI FL 33128-1995 117

Department of the Treasury
P. O. Box 2508
Cincinnati, OH 45201

Person to Contact:
Mrs. Coghill 31-07426
Customer Service Specialist
Toll Free Telephone Number: 877-829-5500
Federal Identification Number: 59-6000573

Dear Sir/Madam:

This is in response to your request of December 21, 2005, regarding your organization's exemption from Federal income tax.

As a governmental unit or a political subdivision thereof, your organization is not subject to Federal income tax under the provisions of Section 115(1) of the Internal Revenue Code, which states in part:

"Gross income does not include income derived from ... the exercise of any essential governmental function and accruing to a State or any political subdivision thereof ..."

Because your organization is a governmental unit or a political subdivision thereof, its income is not taxable as explained above. Contributions used exclusively for public purposes are deductible under Section 170(c)(1) of the Code.

Your organization is not liable for the tax imposed under the Federal Unemployment Tax Act (FUTA).

Your organization may obtain a letter ruling on its status under section 115 by following the procedures specified in Rev. Proc. 2004-1 or its successor.

If you have any questions, please call us at the telephone number shown in the heading of this letter.

Sincerely,



for Janna K. Skufca, Director, TE/GE
Customer Account Services

Miami-Dade County & Resilient305 Collaborative

**Promoting community-based air quality
monitoring partnerships to overcome
environmental and health disparities in
Miami-Dade County**

ATTACHMENT D

Resumes of Project Manager
and Other Key Personnel

CVs

PAULO C. OLIVAS, Ph.D.

Department of Earth and Environment
Florida International University
AHC-361, 11200 SW 8th Street,
Miami, FL 33199
Phone: 305.348.1688
Email:paolivas@fiu.edu

EDUCATION

Postdoctoral Associate. NSF, Postdoctoral Research Fellowship in Biology. 2013-2014.

Postdoctoral Associate. Everglades National Park / Florida International University. 2011-2012.

Ph.D. in Biology. Florida International University. 2007-2010.

M.S. in Biology. Florida International University. 2005-2007.

RESEARCH AND PROFESSIONAL EXPERIENCE

2021-present Assistant Professor, Dept. of Earth and Environment, FIU, Miami, FL, USA

2015-2021: Research Associate, FIU, Miami, FL, USA

2013-2014: PostDoc, Fairchild Tropical Botanic Garden, Miami, FL, USA

2011-2012: PostDoc, Florida International University (FIU), Miami, FL, US

RESEARCH PRODUCTS

- Malone, S., Zhao, J., Kominoski, J., Starr, G., Staudhammer, C., Olivas, P., Cummings, J., Oberbauer, S. 2021. Integrating Aquatic Metabolism and Net Ecosystem CO₂ Balance in Short- and Long-Hydroperiod Subtropical Freshwater Wetlands. *Ecosystems* (2021). <https://doi.org/10.1007/s10021-021-00672-2>
- Massmann, A., Cavaleri, M. A., Oberbauer, S., Olivas, P., & Porder, S. 2021. Foliar Stoichiometry is Marginally Sensitive to Soil Phosphorus Across a Lowland Tropical Rainforest. *Ecosystems*. <http://doi.org/10.1007/s10021-021-00640-w>
- Richards, J.H. and Olivas, P.C. 2020. A common mesocosm experiment recreates sawgrass (*Cladium jamaicense*) phenotypes from Everglades marl prairies and peat marshes. *American Journal of Botany* 107(1): 56–65. DOI:10.1002/ajb2.1411
- Zhao, J.B., Malone, S.L., Oberbauer, S.F., Olivas, P.C., Schedlbauer, J., Staudhammer, C.L., Starr, G. 2019. Intensified inundation shifts a freshwater wetland from a CO₂ sink to a source. *Global Change Biology* 00:1-15. DOI:10.1111/gcb.14718
- Zhao, J.B., Oberbauer, S.F., Olivas, P.C., Schedlbauer, J., May, J.L., Moser, J.G., Malone, S.L., Staudhammer, C.L., Starr, G. 2018. Contrasting Photosynthetic Responses of Two Dominant Macrophyte Species to Seasonal Inundation in an Everglades Freshwater Prairie. *Wetlands* 38 (5):893-903. DOI: 10.1007/s13157-018-1038-1
- Zhao, J.B., Olivas, P.C., Kunwor, S., Malone, S.L., Staudhammer, C.L., Starr, G., Oberbauer, S.F. 2018 Comparison of sensible heat flux measured by large aperture scintillometer and eddy covariance in a seasonally-inundated wetland. *Agricultural and Forest Meteorology*. DOI: 10.1016/j.agrformet.2018.05.026
- Moser, J.G., Oberbauer, S.F., Sternberg, L.D.S.L., Ellsworth, P.Z., Starr, G., Mortazavi, B., Olivas, P.C. 2016. Water uptake of Alaskan tundra evergreens during the winter-spring transition. *American Journal of Botany*. DOI: 10.3732/ajb.1500358
- Rehm, E.M., Olivas, P., Stroud, J., Feeley, K. 2015. Losing your edge: climate change and the conservation value of range-edge populations. *Ecology and Evolution*.

Biographical sketches:
AMY C. CLEMENT

A. Professional Preparation.

Columbia College, Columbia University, NY	Physics	B.A. 1993
Columbia University, NY	Physical Oceanography	M.A. 1995
Columbia University, NY	Physical Oceanography	M. Phil. 1996
Columbia University, NY	Climate Dynamics	Ph.D. 1999
University of Paris (Post-doctorate)	Climate Dynamics	1998- 2000

B. Appointments.

Professor. Department of Atmospheric Science, University of Miami. June 2011 to present.

Associate Professor. Division of Meteorology and Physical Oceanography, Rosenstiel School of Marine and Atmospheric Science, University of Miami. June 2007 to 2011.

Assistant Professor. Division of Meteorology and Physical Oceanography, Rosenstiel School of Marine and Atmospheric Science, University of Miami. March 2001 to June 2007.

Adjunct Associate Research Scientist. Lamont-Doherty Earth Observatory, Columbia University. March 2001 to present.

Associate Research Scientist. Lamont-Doherty Earth Observatory, Columbia University. February 2000 to March 2001.

C. Products

1. Troxler, T., A. Clement, M Bhat, J Bolson, C Caban-Aleman, A Dodd, S Evans, A Fleming, C Genatios, J Gilbert, C Holder, M Ilcheva, J Lombard, Katharine Mach, J Murley, A Knowles, J Obeysekera, J Posner, A Sarwat, J Stuart, M Sukop, E Wheaton, S Wdowinski, 2021: A System for Resilience Learning: Developing a community-driven, multi-sector research approach for greater preparedness and resilience to shocks and stresses in the Miami metropolitan region. *Journal of Extreme Events* <https://doi.org/10.1142/S2345737621500196>.
2. Waite, A. J., Klavans, J. M., Clement, A. C., Murphy, L. N., Liebetrau, V., Eisenhauer, A., et al. (2020). Observational and Model Evidence for an Important Role for Volcanic Forcing Driving Atlantic Multidecadal Variability over the last 600 years. *Geophysical Research Letters*, 47, e2020GL089428. Accepted Author Manuscript. <https://doi.org/10.1029/2020GL089428>
3. Klavans, J. M., Clement, A. C., Murphy, L. N., & Zhang, H. (2020). Identifying the externally forced Atlantic Multidecadal Variability signal through Florida rainfall. *Geophysical Research Letters*, 47, e2020GL088361. <https://doi.org/10.1029/2020GL088361>
4. Klavans, J., A. Clement, M. Cane, 2019: Variable external forcing obscures the weak relationship between the NAO and north Atlantic multi-decadal SST variability. *Journal of Climate*. <https://doi.org/10.1175/JCLI-D-18-0409.1>
5. Cane, M. A., A. Clement, L. Murphy, K. Bellomo, 2017: Low Pass Filtering, Heat Flux and Atlantic Multidecadal Variability. *J. Climate*. DOI: 10.1175/JCLI-D-16-0810.1
6. Clement, A., K. Bellomo*, L. N. Murphy, Ma. A. Cane, G. R  del, B. Stevens, T. Mauritsen, 2015: The Atlantic Multidecadal Oscillation Without a Role for Ocean Circulation. *Science*, 350, 320-324.

Synergistic activities:

- **Member**, AGU Atmospheric Science Section awards canvassing committee (Fall 2019-present); AGU Fellows selection committee (Jan 2015- 2019)

- ***Chair***, Atmospheric Research Awards Committee, American Meteorological Society (2016-2019)
- ***Co-director, Co-founder***, Resilient 305 Collaborative (March 2020-present)
- ***Chair***, Grove 2030 Parks and public spaces committee (Jan 2017-present)
- ***Member***, Resilient Great Miami and the Beaches, Living with Water working group (2018)
- ***Member***, Board of Directors of Miami Waterkeeper (2017-present)
- ***Vice Chair***, City of Miami Climate Resilience Committee (2020-present)

PRATIM BISWAS
Professor, Chemical, Environmental & Materials Engr. & Atmospheric Sciences
Dean, College of Engineering
University of Miami
1251 Memorial Drive, MEB 245
Miami, FL 33146
Tel: (305) 284-6035
E-Mail: pbiswas@miami.edu

Professional Preparation

California Institute of Technology	Mechanical Engineering	Ph.D.	1985
University of California, Los Angeles	Chemical/Thermal/Nuc.Engr.	M.S.	1981
Indian Institute of Technology, Bombay	Mechanical Engineering	B.Tech.	1980

Appointments

2021-current	Professor & Dean, Engineering	University of Miami
2006-2020	Lucy and Stanley Lopata Professor; Chair, Energy, Environmental & Chem Engr.	Washington University, St. Louis
2000-2006	Jens Professor and Director, Environ. Engr. Sci.	Washington University, St. Louis
1993-2000	Professor	University of Cincinnati
1994	Visiting Res. Scientist	Nat. Institute of Standards & Tech.
1989-1993	Associate Professor	University of Cincinnati
1985-1989	Assistant Professor	University of Cincinnati

Five Most Closely Related Publications (out of a total of 450)

- 1) Prakash, J., Choudhary, S., Raliya, R., Chadha, T., Fang, J. and Biswas, P., "Real-time source apportionment of fine particle inorganic and organic constituents at an urban site in Delhi city: An IoT-based approach", Atmospheric Pollution Research, 12 (11), 101206, 2021,
- 2) Li, J. Zhang H., Chao, C., Chien, C.H., Wu, C.Y., Luo, C.H.; Chen, L.J.; Biswas, P., "Integrating Low-cost Sensor Networks with Fixed and Satellite Monitoring Systems for Enhanced Accuracy, Reliability, and Applicability", Atmospheric Environment, 223, 117293, 2020.
- 3) Wang, Y., Li, J., Jing, H., Zhang, Q., Jiang, J., and Biswas, P. "Laboratory evaluation and calibration of three low-cost particle sensors for particulate matter measurement" Aerosol Science and Technology, 49:11, 1063-1077, 2015.
- 4) Li, J., Leavey, A., Wang, Y., O'Neil, C., Wallace, M. A., Burnham, C. D., Boon, A. C., Babcock, H., and Biswas, P. "Comparing the performance of 3 bioaerosol samplers for influenza virus", J. of Aerosol Science, 115, 133-145, 2017
- 5) O'Neil, C. A., Li, J., Leavey, A., Wang, Y., Hink, M., Wallace, M., Biswas, P., Burnham,

C., D., and Babcock, H., M., "Characterization of Aerosols Generated During Patient Care Activities", Clinical Infectious Diseases, 65, 1342-1348, 2017

Five Other Significant Publications (out of a total of 450)

- 1) Prakash, J., Choudhary, S., Raliya, R., Chadha, T.S., Fang, J., George, M.P. and Biswas, P. "Deployment of networked low-cost sensors and comparison to real-time stationary monitors in New Delhi", Journal of the Air & Waste Management Association, 71:11, 1347-1360, 2021.
- 2) Cashikar, A., Li, J., and Biswas, P., "Particulate Matter Sensors Mounted on a Robot for Environmental Aerosol Measurements ", Journal of Environmental Engineering, 145(10), 2019
- 3) Abokifa, A., Haddad, K., Fortner, J., Lo, C. S., and Biswas P., "Sensing Mechanism of Ethanol and Aceton at Room Temperature by SnO₂ nano-columns Synthesized by Aerosol Routes: Theoretical Calculation Compared to Experimental Results", Journal of Materials Chemistry A, 6, 2053-2066, 2018.
- 4) Kulkarni P., Namiki N., Otani Y. and Biswas P.: "Charging of particles in unipolar coronas irradiated by in-situ soft X-rays: Enhancement of Capture Efficiency of Ultrafine Particles", J. Aerosol Sci., vol. 33 (9), 1279-1298, 2002.
- 5) Biswas P. and Wu C.Y., "Nanoparticles and the environment", Critical Review Paper, J. Air and Waste Mgmt. Associn., vol. 55, 708-746, 2005.

Synergistic Activities

- Conference Chair, International Aerosol Conference organized by International Aerosol Assembly, September 2018
- Director, MAGEEP (Collaborations with 28 International Universities in Energy and Environment Research and Education). Assistant Vice Chancellor of International Programs – coordinate international programs that are University wide.
- Recipient of 8 US Patents as Primary Developer
- National Academy of Engineering Member, Elected 2019. Participate in several NRC Committees to prepare white papers and position papers.
- Co-Founder, Applied Particle Technologies (APT) and Co-Founder, SmArT LLC. Based on innovative patented technology. Advise former PhD students and guide them in a successful startup (APT) that makes PM sensors and detectors. SmArT LLC is focused on fabrication of nanocomposites for smart, precision agriculture.

OTHER RESEARCH PRODUCTS

- Development of low cost technologies for environmental monitoring. 2017-Present. Participation in the development and beta testing of FieldKit modular environmental monitoring system (FieldKit.org) for citizen scientists. *In production.*
- Design and dissemination of an environmental toolbox for water quality monitoring for the citizen science application in the Amazon region. 2017-Present. Lead of a Collaborative working group including partners of five South American countries for the production and implementation of an environmental monitoring toolbox for the Amazon region. *In production.*
- Natural Resource Condition Assessment for Buck Island Reef National Monument (BUIS), Salt River Bay National Historical Park and Ecological Preserve and Virgin Islands National Park and Virgin Islands Coral Reef National Monument in the United States Virgin Islands. 2016-present. Data preparation, production and analysis for the creation of geo-databases, layers, maps for the Natural Resource Condition Assessment of the US Virgin Islands. *In production.*
- Conservation, evaluation, and distribution of sugarcane, mango, avocado and other subtropical/tropical genetic resources and associated data (USDA-ARS). 2020-present. Maintenance of database and mapping applications for management of phenotypic and genotypic data for the USADA-ARS.

SYNERGISTIC ACTIVITIES

- Designed and deployed multiple trainings and workshops to train individuals of multiple rural and native communities in the Amazon region in the use of environmental monitoring (2017-present).
- Development of online workshops (webinars) to teach about the use of low cost equipment for environmental monitoring (2017-present).
- Ecology lecture to high school students on ecological principles and adaptations to extreme conditions. FIU. Spring 2011. Miami, FL, USA.
- NSF Polar TREC. Teachers and researchers exploring and collaborating. Selection Committee for the 2010 Teacher awards. Spring 2009. Barrow, Alaska, USA.
- Establishment of an experimental mangrove growth-monitoring program with middle school students at St. Mark Catholic School. Spring 2009. Boynton Beach, FL, USA.
- NSF Polar TREC. Teachers and researchers exploring and collaborating. Mentoring and training of a Middle school teacher. Summer 2007, 2008. Barrow, Alaska, USA.
- Serving as peer and panel reviewer for NSF, NASA, and DOE and national and international journals

Diana A. Moanga, Ph.D.

dmoanga@fiu.edu ~ 407-808-7901

Education

- 2020 **Ph.D.** Environmental Science Policy and Management. **University of California Berkeley.**
- 2015 **M.S.** Marine Affairs and Policy. **University of Miami Rosenstiel School of Marine and Atmospheric Sciences.**
- 2013 **B.A.** Marine Affairs, Minor in Ecosystem Science and Policy (*summa cum laude*). **University of Miami.**

Professional Experience

- 2021 – present Postdoctoral Researcher - Coastal Urban Sustainability and Resilience. **Florida International University.** Sea Level Solutions Center, Department of Earth and Environment.

Publications (Selected out of 17)

Troxler, T., Clement, A. C., Ardití-Rocha, Y., Beesing, G., Bhat, M., Bolson, J., Caban Aleman, C., Castillo, K., Collins, O., Cruz, M., Dodd, A., Evans, S.D., Fleming, A.L., Sequera, C.G., Gilbert, J., Hernandez, A., Folder, C., Ilcheva, M., Kelly, E., Leon, A., Lombard, J., Mach, K., **Moanga, D.**, et al. (2021). A System for Resilience Learning: Developing a community-driven, multi-sector research approach for greater preparedness and resilience to long-term climate stresses and extreme events in the Miami metropolitan region. *Journal of Extreme Events*. 8. dx.doi.org/10.1142/S2345737621500196

Wartenberg C.A., **Moanga D.**, & Butsic V. (2021). Identifying drivers of change and predicting future land-use impacts in established farmlands. *Journal of Land Use Science*.
https://www.tandfonline.com/doi/full/10.1080/1747423X.2021.2018061.

Wartenberg, A., **Moanga, D.**, Potts, M.D., & Butsic V. (2021). Limited economic-ecological trade-offs in a shifting agricultural landscape: a case study from Kern County, California. *Frontiers in Sustainable Food Systems, section Agroecology and Ecosystem Services*, 5:650727, doi:10.3389/fsufs.2021.650727.

Moanga, D., Biging, G.S., Butsic, V., & Radke, J. (2020). The space time cube as an approach to quantifying future wildfires in California. *International Journal of Wildland Fire*.
https://doi.org/10.1071/WF19062.

Laćan, I., **Moanga, D.**, Butsic, V., & McBride, J.R. (2020). Sealed in San José: paving of front yards and its effect diminishes on urban forest resource and benefits in low- density residential neighborhoods. *Journal of Urban Forestry & Urban Greening* 54.

Moanga, D., Schroeter, I., Ackerly, D., & Butsic, V. (2018). Avoided land use conversions and carbon loss from conservation purchases in California. *Journal of Land Use Science* 13(4): 391-413.

Ackerly, D., Battles, J., Butsic, V., Gonzalez, P., Kelly, M., Silver, W., Saah, D., Di Tommaso, S., Mayer, A., **Moanga, D.**, Schroeter, I., & Riordan, B. (2018). Land Acquisition and Ecosystem Carbon in Coastal California. *California's Fourth Climate Change Assessment*. Publication number: CCCA4-EXT-2018-003.

Butsic, V., Shapero, M., **Moanga, D.**, & Larson S. (2017). Using InVEST to assess ecosystem services on conserved properties in Sonoma County, CA. *California Agriculture* 71(2):81-89.

Glynn, P.W., Alvarado, J.J., Banks, S., Cortés, J., Feingold, J.S., Jiménez, C., Maragos, J.E., Martínez, P., Maté, J.L., **Moanga, D.A.**, Navarrete, S. Reyes-Bonilla, H., Riegl, B., Rivera, F., Vargas-Angel, R., Wieters, E.A., & Zapata, F.A. (2017). Eastern Pacific coral reef provinces, coral community structure and composition: an overview. In *Coral Reefs of the Eastern Tropical Pacific* (pp. 107-176). Springer, Dordrecht.

Peer Reviewer for: International Journal of Wildland Fire; Journal of Land Use Science; PLOS Sustainability and Transformation, Journal of Environmental Planning and Management.

Academic talks and conference presentations

- 2021 Speaker at the International Congress of Biometeorology (ICB).
Guest speaker for Seminar in Marine Science at the University of Miami.
- 2020 Guest speaker for “Sustainable Seminars” University of California, Berkeley.
- 2019 ESRI User Conference (San Diego), “The space time cube as an approach to quantifying future wildfires in California (2000-2100)” (Poster presentation).
Guest speaker for Forest Management Seminar at UC Berkeley.
Guest speaker for Introduction to GIS at UC Berkeley.

Outreach and Community Service

-
- 2021 Volunteered for the Collaborative Online International Learning (COIL) Program: Design for Adaptability: Coastal Design Explorations for Changing Climatic Conditions and Social/Cultural Environments.
 - 2017 Selected to be the Graduate Student Representative on the Search Committee for Assistant Professor position in Quantitative Environmental Remote Sensing at UC Berkeley.
 - 2014 - 2015 Volunteer at the Coral Reef Futures Lab at University of Miami (RSMAS).
 - 2013 - 2015 Member of the University of Miami Propeller Club.

Awards and Accomplishments

Part of the Southeast Florida Regional Citizen Science Climate Action Network - Awarded second place in the Climate Challenge Cup at the UN Climate Change Convention at Glasgow (2021)
Florida International University Postdoctoral Scholar Research Recognition Award (2021)
UC Berkeley Travel Grant Summer (2019)
UC Berkeley Travel Grant Spring (2019)
Outstanding Graduate Student Instructor (GSI) Award (Spring 2019)
UC Berkeley Starter Grant Award (2015)
RSMAS Graduate Career Development Fund (2014)
Master of Professional Science (MPS) Partial Tuition Scholarship (2014)
Graduated *Summa Cum Laude* (4.0 GPA), top 1% of graduating class of University of Miami (2013)
University of Miami President Honors Roll (2013)
University of Miami Dean's Scholarship (2012)
Florida International University Student Government Association Recognition award (2011-2012)
FIU SAGE Scholarship (2011)
Sally Goldman Scholarship (2011)
Philip and Euline Honors College Scholarship (2010)
Florida International University Dean's List (each academic semester between 2008 and 2012)
Florida International University Presidential Scholarship (2008)

NSF BIOGRAPHICAL SKETCH

NAME: Gaston, Cassandra

ORCID: 0000-0003-1383-8585

POSITION TITLE & INSTITUTION: Assistant Professor, Rosenstiel School of Marine and Atmospheric Science, University of Miami

(a) PROFESSIONAL PREPARATION

INSTITUTION	LOCATION	MAJOR / AREA OF STUDY	DEGREE (if applicable)	YEAR YYYY
University of California, San Diego	La Jolla, CA	Biology	BS	2005
University of California, San Diego	La Jolla, CA	Environmental Chemistry	BA	2005
Scripps Institution of Oceanography	La Jolla, CA	Oceanography	PHD	2012
University of Washington	Seattle, WA	Atmospheric Sciences	Postdoctoral Fellow	2012 - 2015

(b) APPOINTMENTS

2016 - present Assistant Professor, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FL

(c) PRODUCTS

Products Most Closely Related to the Proposed Project

1. Barkley AE, Prospero JM, Mahowald N, Hamilton DS, Pependorf KJ, Oehlert AM, Pourmand A, Gatineau A, Panechou-Pulcherie K, Blackwelder P, Gaston CJ. African biomass burning is a substantial source of phosphorus deposition to the Amazon, Tropical Atlantic Ocean, and Southern Ocean. *Proc Natl Acad Sci U S A*. 2019 Aug 13;116(33):16216-16221. PubMed Central PMCID: [PMC6697889](#).
2. Mitroo D, Gill TE, Haas S, Pratt KA, Gaston CJ. ClNO₂ Production from N₂O₅ Uptake on Saline Playa Dusts: New Insights into Potential Inland Sources of ClNO₂. *Environ Sci Technol*. 2019 Jul 2;53(13):7442-7452. PubMed PMID: [31117541](#).
3. Gaston CJ. Re-examining Dust Chemical Aging and Its Impacts on Earth's Climate. *Acc Chem Res*. 2020 May 19;53(5):1005-1013. PubMed PMID: [32349473](#).
4. Barkley AE, Olson NE, Prospero JM, Gatineau A, Panechou K, Maynard NG, Blackwelder P, China S, Ault AP, Gaston CJ. Atmospheric transport of North African dust-bearing supermicron freshwater diatoms to South America: implications for iron transport to the equatorial North Atlantic Ocean. *Geophysical research letters*. 2021; 48. Available from: [e2020GL090476](#)
5. Prospero JM, Barkley AE, Gaston CJ, Gatineau A, Campos y Sansano A, Panechou K. Characterizing and quantifying African dust transport and deposition to South America: Implications for the phosphorus budget in the Amazon Basin. *Global biogeochemical cycles*. 2020. Available from: [e2020GB006536](#)

Other Significant Products, Whether or Not Related to the Proposed Project

BS-1 of 2

1. Gaston CJ, Thornton JA. Reacto-Diffusive Length of N₂O₅ in Aqueous Sulfate- and Chloride-Containing Aerosol Particles. *J Phys Chem A*. 2016 Feb 25;120(7):1039-45. PubMed PMID: [26836323](#).
2. Gaston CJ, Riedel TP, Zhang Z, Gold A, Surratt JD, Thornton JA. Reactive uptake of an isoprene-derived epoxydiol to submicron aerosol particles. *Environ Sci Technol*. 2014 Oct 7;48(19):11178-86. PubMed PMID: [25207961](#).
3. Gaston CJ, Lopez-Hilfiker FD, Whybrew LE, Hadley O, McNair F, Gao H, Jaffe DA, Thornton JA. Online molecular characterization of fine particulate matter in Port Angeles, WA: Evidence for a major impact from residential wood smoke. *Atmos Environ*. 2016; 138:99-107.
4. Royer HM, Mitroo D, Hayes SM, Haas SM, Pratt KA, Blackwelder PL, Gill TE, Gaston CJ. The Role of Hydrates, Competing Chemical Constituents, and Surface Composition on ClNO₂ Formation. *Environ Sci Technol*. 2021 Mar 2;55(5):2869-2877. PubMed PMID: [33587619](#).
5. Mitroo D, Gill TE, Pratt KA, Gaston CJ. Development of a bench scale method for constant output of mineral dust. *Aerosol science and technology : the journal of the American Association for Aerosol Research*. 2021; :1-14.

(d) SYNERGISTIC ACTIVITIES

1. Recognition and Increased Dissemination of Scholarly Products: I have received a paper award from the journal *Environmental Science & Technology* for the “Top Environmental Science Paper of 2015”, and one of my publications was one of 25 papers selected by the *Journal of Physical Chemistry A* for inclusion in the virtual issue *Atmospheric Physical Chemistry*. My student was the recipient of the 22nd Annual Wagner Award for Women in Atmospheric Science for her work on phosphorus deposition to the Amazon Basin.
2. Training Undergraduates in Science Research and Writing: I have served as a mentor for undergraduate students, including female and Hispanic students. Students learn how to quantify dust and soluble ions on our filters collected in Barbados and South America and also are given opportunities to present their research at national conferences. I have also spearheaded intensive, 4-week long science writing workshop for undergraduates. The workshops have helped undergraduates learn how to better articulate why their research is novel and how to critically think about the meaning of their results. The workshop has led to tangible products such as a polished undergraduate thesis abstract, introductions, and conclusions sections of their senior thesis projects. I anticipate that the critical thinking and writing gains made as part of this workshop will increase the probability of undergraduate-led publications.
3. Public Engagement: My lab has developed atmospheric chemistry modules for middle school and high school students. Events that we participate in include our annual Women in Science Day and IMPACT students, which engages first generation college bound students that are primarily from Latin American and Haitian American communities.
4. Memberships and Directorships: I am a member of the Ocean Carbon & Biogeochemistry (OCB) subcommittee focused on air-sea interactions and the Caribbean Aerosol Health Network (CAHN), which is concerned with the impact of African dust transport on air quality. I am also the director of the Barbados Atmospheric Chemistry Observatory (BACO).

Jane Gilbert

Ex. 6 Personal Privacy (PP)

Education:

John F. Kennedy School Executive Education, 2020 Climate Change Policy: Economics and Politics
Harvard Business School Executive Education 2005 Strategic Perspectives in Non-Profit Management
John F. Kennedy School of Government M.P.A. Public Administration, 1994
Harvard University, Cambridge, MA

Barnard College

Columbia University, New York, NY 1987 B.A. Environmental Science

Professional Experience:

CHIEF HEAT OFFICER Miami-Dade County June 2021 -

Appointed to lead the development and implementation of an interdepartmental and community-wide plan for addressing the increasing risks to human health, lives and livelihoods of extreme heat.

CHIEF RESILIENCE OFFICER **City of Miami** Oct 2016 - Aug 2020

Co-led the development and implementation of a regional resilience strategy, Resilient305, with Miami-Dade County and City of Miami Beach. Led the development and implementation of the City's Miami Forever Climate Ready strategy which set forth the policy, financing and administrative framework and action plan to mitigate the impacts of climate change on the City over the next 40 years. Supported the development, passage and implementation of the \$400 million Miami Forever Bond.

PRINCIPAL, INTEGRATED SOLUTIONS FOR A GREATER MIAMI June 2015 - Oct 2016

On behalf of The Miami Foundation, managed the formation of a partnership between Miami-Dade County, City of Miami and City of Miami Beach and the writing of a joint application to the Rockefeller 100 Resilient Cities Initiative. Also managed The Miami Foundation's civic leadership agenda addressing sea level rise, including developing local policy and action priorities and communications and engagement research with diverse constituencies. Other clients included Allegany Franciscan Ministries (civic engagement) and University of Miami (local government partnership strategy).

VICE PRESIDENT, COMMUNITY AFFAIRS OFFICER, SOUTH FLORIDA **Wells Fargo** May 2010 – May 2015

Managed Wells Fargo's philanthropy and community engagement in South Florida. Engaged Wells Fargo's external nonprofit, civic, government and business partners, lines of business leaders and team members in building partnerships with greater community impact. Led Wells Fargo's South Florida volunteer chapter, green team and employee-giving campaign for 5,000 team members. Serves as a trusted advisor and coach to lines of business leaders on reputation management and community leadership. Built strategic relationships with external community partners across a large and complex geography. Met budget, timeline, policy and regulatory requirements associated with grant making.

PRINCIPAL, INTEGRATED SOLUTIONS FOR A GREATER MIAMI November 2006 – May 2010

Selection of clients and assignments

- **Dream in Green** www.dreamingreen.org As founding Executive Director, created cross-sector partnerships with Miami Dade County, City of Miami Gardens, City of Miami, and FPL to design and implement a program to assist low to moderate income homeowners save costs, energy and water through no and low cost measures. Designed, secured funding and implemented first year pilot of Green Schools Challenge aimed at increasing energy efficiency, reducing CO2 emissions and raising public awareness in public schools. Strategic and organizational planning and fundraising with Board of Directors. Raised funds to expand program to 45 schools and hire a full-time Executive Director.

- **Florida Health Policy Center**

Created a three-year strategic plan for the funding partners.

- **Miami Dade Department of Cultural Affairs**

Created a Board development and recruitment tool based on the national models and local research. Conducted workshops and facilitated discussions with nonprofit leaders on board development.

- **Florida Philanthropic Network** Facilitated board retreat designed to define organization's strategic focus, membership policies and programs and define a job description and hiring process for a new Executive Director.

EXECUTIVE DIRECTOR Arts for Learning/Miami www.a4lmiami.org January 2000 – February 2006
Led the start-up and rapid growth of a preK-12 educational initiative. Grew annual budget from \$75K to over \$1.6 million in 6 years, serving over 130 school and park sites county-wide. Engaged Board of Directors & staff in establishing strategic goals with performance based benchmarks. Managed a team of 13 staff and over 100 contractors. Organization received Non-Profit Innovations Award from Greater Miami Chamber of Commerce and Countywide Dade Partners award from Miami-Dade Public Schools.

EXECUTIVE DIRECTOR ArtCenter/South Florida www.artcentersf.org June 1995 – September 1998
Responsible for successful financial, programmatic, and reputational turnaround of this non-profit offering subsidized artist studios, arts education for youth and adults, and exhibition programs. Facilitated a strategic planning process that resulted in renewed public and private support to the organization. Expanded grant and fee based education programs from a 400 to 3500+ annual enrollment. Removed operating losses within six months and increased overall annual operating budget from \$890K to \$1.3MM. Established a \$3MM endowment by selling one of ArtCenter's properties and consolidating operations. Responsible for all fundraising, managing 8-10 staff, and served as the ArtCenter's liaison to all city, county, state and federal agencies and civic organizations. Reported to and coordinated activities of the Board of Directors.

NEW PRODUCT DEVELOPMENT & ENVIRONMENTAL MANAGER Cultural Survival
www.culturalsurvival.org February 1990 – January 1992, Cambridge, MA

Supported the start-up of an entrepreneurial trading venture in non-timber products from tropical rainforests. Directed research and writing on the market potential of economic plant species. Developed guidelines for sustainable harvesting of forest species for USAID. Created and maintained a client base of 25 personal care product companies. Presented the venture and related topics to universities, conferences, benefit concerts, and radio stations.

ENVIRONMENTAL MANAGEMENT CONSULTANT, July 1987 - April 1991 **Arthur D. Little**, Cambridge, MA
Consulted to large corporations on environmental risk management. • Conducted over 50 risk assessments and environmental, health, and safety audits in a variety of industrial settings in North and South America.
• Analyzed and recommended market development opportunities for recyclable materials. Wrote a manual for marketing recyclable materials for local and county recycling managers.
• Designed and managed workshops for senior management of large disposable product manufacturers on the environmental pressures and reputational risks impacting their industry.
• Evaluated municipal recycling programs in North America to determine best practices.

Volunteer Activities

- Member, Planning, Zoning and Appeals Board, City of Miami October 2020 - Sept 2021
- City of Miami Sea Level Rise Committee, June 2016 – December 2016
- Board Member, Frost Science Museum, October 2013 – March 2016
- Member, One Community One Goal Steering Committee, Beacon Council, Sept 2011 – Sept 2015
- Board member, South Florida Progress Foundation, Sept 2010- Sept 2015
- Chair, South Florida Advisory Council, Florida Philanthropic Network, Oct 2012 – Oct 2014
- Member, Miami Dade Climate Change Advisory Task Force, Sept 2007 – Sept 2010
- Member, City of Miami NSP Task Force, Jan 2009 – Dec 2010
- Trustee, Edward S. Moore Family Foundation, 1994-

Awards

American Institute of Architects Miami Chapter, Leadership in Government Award (2021)
University of Miami Abess Center for Ecosystem Science and Policy Reitmeister Award (2020)
Achiever, Miami Today (2020)
Circle of Change Award, The CLEO Institute (2016)
Harvard Community Partners Fellowship for Executive Education at Harvard Business School (2005)
Manual C. Carballo Memorial Prize for Master's Thesis in Public Policy, HKS (1994)
Anne Davidson Fellowship in Environmental Science (1987) Bornemann Prize in Spanish Composition (1986)

Languages: Proficient in Spanish.

EDUCATION:

Master of Professional Science
University of Miami, Coral Gables, FL
Rosenstiel School of Marine and Atmospheric Science
Concentration: Weather, Climate, and Society

Bachelor of Science
University of Miami, Coral Gables, FL
Majors: Meteorology and Applied Mathematics

EXPERIENCE:**Resilience Coordinator II – Innovation and Engagement, Miami-Dade County Office of Resilience, Miami, FL****July 2018 – Present**

- Lead outreach activities for municipal engagement on resilience related issues and implementation of *Resilient35 in the 305* municipal engagement program
- Oversee and co-promote university and organizational engagement activities including the Resilient305 Collaborative
- Assist in implementation efforts for Resilient305 Strategy including leading yearly Strategy updates, coordinating monthly implementation team meetings and overall project management
- Assist in drafting media and briefing materials, memos and letters for Office of Resilience administration and County mayor

**FL Field Consultant & Latino Outreach Organizer, Moms Clean Air Force, Miami, FL
October 2015 – July 2018**

- Developed a strong coalition of partners and volunteers in Florida to grow Moms Clean Air Force's mission and capacity throughout the State
- Engaged with targeted elected officials and held them accountable on children's health issues related to air quality and climate change and keep them abreast of Moms Clean Air Force state specific events, media, and campaigns
- Organized and deployed grassroots, grasstop, and direct advocacy tactics in support of campaign goals
- Increased awareness of Moms Clean Air Force media through both earned and generated English and Spanish media

Consultant, Clean Air Moms Action, Miami, FL & Raleigh, NC**August 2016 – November 2016**

- Worked with Clean Air Moms Action Campaign Manager to develop and execute a targeted campaign to reach key constituencies through on the ground activities, phone banking, and canvassing to expand reach and potential impact
- Worked with communications team to execute a communications campaign in South Florida including a print ad and writing of media pieces
- Served as liaison between Clean Air Moms Action and Florida America Votes coalition

- Co-led canvassing operation in Raleigh, NC with Clean Air Moms Action Campaign manager to engage voters in specified districts which included on the ground canvassing

Director of Programs, The CLEO Institute, Pinecrest, FL

August 2014 – July 2016

- Coordinated CLEO program components, progress and evaluation
- Managed and supported staff, interns, and volunteers
- Communicated regularly with partners and collaborators to establish and coordinate CLEO programs and initiatives
- Directed and helped run events, meetings and workshops with various stakeholders including: municipalities, community members, universities, and teams of support
- Oversaw membership, public relations, and marketing efforts
- Cultivated donors and coordinated finances
- Assisted in producing budgets and grant writing
- Produced press releases and statements
- Co-designed climate leadership trainings (introductory and essential level trainings)

Program Manager, The CLEO Institute, Pinecrest, FL

August 2012 – July 2014

- Refined and expanded initiatives of The CLEO Project on Climate and created program materials
- Established a framework for collection and evaluation of program feedback
- Aided in writing of grants and letters of intent to foundations and grant-making organizations
- Assisted in planning, set-up, and execution of meetings with board members, advisory council, volunteers, and youth task force members
- Co-led webpage redesign and management
- Supervised two AmeriCorps Public Allies staff members

SKILLS:

- Proficient in Microsoft Office Suite: Word, Excel, PowerPoint, Outlook
- Fluent in Spanish

AWARDS AND RECOGNITIONS

- 2017 Grist 50 Under 50
- 2016 Ford Mujer Legendaria Award for Sustainability Pillar

PROFESSIONAL PROFILE

A detailed driven, registered professional engineer with over 25 years of increasing professional experience, possessing a Bachelor of Science in Civil Engineering, with a proven track record of consistent achievement in meeting set goals and successful program/project management. Work, within both the private and public sectors, has included dealing with a wide array of subjects within the civil engineering, environmental engineering, permitting, and management fields.

PROFESSIONAL EXPERIENCE

Miami Dade County, Department of Regulatory and Economic Resources (RER) – Environmental Resources Management Division (DERM)
May 2008 – Present

DIVISION CHIEF

Air Quality Management Division

In charge of directing the daily operation of the Air Quality Management Division. Manage the effective implementation of the federal, state, and local air rules and regulations as well as maintain an Air Specific Operating Agreement with the Florida Department of Environmental Protection. Provides appropriate oversight of professional technical staff in the planning, directing, and coordinating air programs to protect, restore and enhance air resources in Miami Dade County. These programs are mandated by federal, state and county regulations and are funded by permit fees, federal and state grants and contracts. The Division consists of two sections, the Air Facilities Section, and the Air Monitoring Section.

SENIOR PROFESSIONAL ENGINEER

Air Quality Management Division – Air Facilities Section

Responsible for managing the Air Facilities Section, the county air program, and the delegated state air pollution control program contract pertaining to air permitting, compliance, enforcement, and the asbestos program. Primary responsibilities include overseeing the implementation of the Miami Dade County air pollution control program contracts with the federal Environmental Protection Agency (EPA) and the State of Florida Department of Environmental Protection (FDEP). Responsible to manage and assist in the permitting, compliance and enforcement, education, training, and file management related activities of program supervisors, engineers, inspectors and clerical staff. Responsible for setting clear and attainable air program goals and business plan objectives regarding permitting, compliance and enforcement activities. Manage staff to ensure successful completion of air program activities and achievement of established goals and objectives.

ENGINEER 2

Pollution Regulation Division – Environmental Permitting Section

Permitting engineer supporting the Environmental Permitting Section's Solid Waste Program. Primary responsibilities for this program include the review of Miami-Dade County and State of Florida solid waste management facility permit applications, review cost estimates for State delegated facilities, review groundwater monitoring plans and reports, review annual engineering reports, review corrective action plans, issuance of Request for Additional Information letters, issuance of county and delegated construction/operating permits, review of construction plans, review of environmental status reviews and public records requests, review of zoning pre-applications, and the preparation of pre-hearing recommendation memoranda for Environmental Quality Control Board cases. In recognition to my work with the Environmental Permitting Section, I was the recipient of a performance excellence award for the 2014-2015 fiscal year.

ENGINEER 2

Water Management Division. – Stormwater Utility Section/Stormwater Planning Section

Responsible for the planning and organizing of the Stormwater Utility Section's review of impervious areas at developed non-residential properties in Miami Dade County. Completed the work on the Division's review of the Stormwater Utility's procedures for data collection and documentation of impervious areas at non-residential properties. Supervised the Engineering Drafting Program in the Stormwater Utility Section, providing guidance in the use of more accurate, specialized image and drawing tools and created a number of other tools to aid in the tracking and analysis of the review progress.

Provided advance engineering support, including the review of contract documents, shop drawings and As-Builts for capital construction projects and environmental activities managed by the Water Management Division. Assisted in the

process of Contract procurement/ Bidding and the development of technical specifications. Provided support to the construction management and accounting staff with the review, approval and processing of numerous field inspection reports and daily logs, review of Construction Requests for Payment and requests for information. Some of those environmental sensitive projects include: Chapman Field Wetlands Restoration, Phases 1 & 2, Beach re-nourishment, Cleaning and Repair of Slab Covered Trenches and associated drainage systems, Miami Marine and Dinner Key Shoreline Stabilization Projects and Florida City Canal Improvement Project.

Miami Dade County, Department of Planning and Zoning (DP&Z)

May 2005 – June 2008

ENGINEER 2

Impact Fees Section

Served as Lead Worker of the engineering group responsible for the review of different projects to comply with the requirements set forth the Miami-Dade County and Florida Building Code Regulations, which include zoning land use, engineering and Impact Fee Administration for Road, Fire, Police, Parks & School. Responsible for the review of building plans, surveys, demolition permits, tax records and microfilms for the permitting process related to Impact Fees for Residential, Industrial, Commercial & Institutional facilities in unincorporated Miami Dade County & Municipalities. Interacted with land developers, contractors, professional architects, engineers and the general public to analyze and review projects related to impact fees. Processed request for exemptions, refunds, credits, affordable housing and contributions-in-lieu of proposals.

CES Consultants, Miami Lakes, FL

February 2003 - May 2005

PROJECT ENGINEER

Responsible for the supervision of multiple FEMA-DORM, Miami-Dade County projects. Responsibilities included the coordination with local governments, master consultant representatives, contractors, and community residents of new drainage systems installation. Review maintenance of traffic (MOT) plans and execution. Oversee the excavation, soil retention and infiltration (French) drainage installation, and all roadway, aprons and sidewalks resurfacing related works.

Jose A Sanchez P.E., Consultant Engineer, Miami, FL

May 2001 - January 2003

PROJECT ENGINEER

Responsible for the design of residential, industrial and commercial structural projects. I took part in the coordination with design professionals to incorporate the structural design into the architectural scheme. Inspected the job sites to obtain measurements, sketches and photos and incorporated it into the structural design layout.

Hochtief Construcciones Buenos Aires, Argentina

March 1995 - September 2000

PROJECT COORDINATOR

Worked in the planning, design, scheduling, and cost estimate preparation for construction projects for more than \$80 million dollars. Projects included Hospitals, Office Buildings, Hotels, Penal Institutions, and Industrial Plants. Coordinated the design and construction activities with consultants and sub-contractors, supervision, and management of subcontracts. Reviewed contract documents, prepared, and submitted requests for change orders, tracked payment requests.

PROFESSIONAL DEVELOPMENT

Bachelor of Science in Civil Engineer - Polytechnic University J.A. Echeverria, La Habana, Cuba (1994)

Licensed Professional Engineer - Florida

Training & Certifications - OSHA 40-Hour HAZWOPER Certification, and subsequent 8-hour refreshers, Supervisory Leadership Development Workshop Series (FIU), Qualified Stormwater Management Inspector 21077 (FDEP), CTQP Asphalt Paving Level I, Work Zone Traffic Control Intermediate Level.

Tiffany G. Troxler, Ph.D.

Associate Professor, Department of Earth and Environment &
 Director of Science, Sea Level Solutions Center, Institute of Environment,
 Florida International University
 11200 SW 8th St, OE 148, Miami, FL 33199;
 troxlert@fiu.edu; Office: 305-348-1571; Lab: 305-348-7479
 Website: <http://wetland.fiu.edu/>

EDUCATION

2005	PhD	Biological Sciences. Florida International University, Miami, FL
2001	MS	Biological Sciences. Florida International University, Miami, FL
1997	BS	Environmental Sciences. Florida International University, Miami, FL
1993	BA	Anthropology and Minor, Ecology Tulane University, New Orleans, LA

PROFESSIONAL EXPERIENCE

2020 – present	Associate Professor, Earth and Environment Department, Florida International University
2018 – present	Director of Science and Founding Director, Sea Level Solutions Center, Florida International University
2015 – 2018	Director, Sea Level Solutions Center, Florida International University
2015 – 2020	Research Associate Professor, Southeast Environmental Research Center and Department of Biological Sciences, Florida International University, Miami, FL
2011 – 2013	Program Officer (Wetland Expert) and Visiting Researcher, Intergovernmental Panel on Climate Change (IPCC) Task Force on National Greenhouse Gas Inventories Technical Support Unit, Institute for Global Environmental Strategies, Hayama, Japan
2010 – 2018	Assistant Research Faculty, Southeast Environmental Research Center, Florida International University, Miami, FL

RESEARCH & GRANTSMANSHIP (Selected out of 13 Active Awards)

Contracts & Grants (Total funding as Lead or Subaward PI: \$6M since 2015, \$9M since 2007)

Troxler, T. (PI), Clement, A. (PI, UM), J. Obeysekera (co-PI), M. Ilcheva (co-PI), K Mach (co-PI, UM), S Evans (co-PI, UM). The Resilient305 Collaborative: Advancing Hyperlocal, Replicable, Impact-driven Adaptation Science through Resilience Learning. NOAA Adaptation Sciences Program. \$300,000. Sept 2021 – Aug 2023.

Crowl, T. (PI), J.M. Eirin-Lopez, F. Fernandez-Lima, R Teutonico, **T. Troxler**. CREST Phase II: Center for Aquatic Chemistry and Environment (CACHÉ). National Science Foundation. \$5M. Sept 2021 – Aug 2026.

Troxler, T. (PI), J. Obeysekera (co-PI), M. Sukop (co-PI), G. Dusek (co-PI, NOAA), and A. Clement (co-PI, UM). Integrated coastal flood observation network for citizen engagement and improved data, modeling and projections. Southeast Coastal Ocean Observing Regional Association. \$400,000. July 2021 – May 2026.

Troxler, T. (PI). Getting to Neutral: Florida Statewide Greenhouse Gas Inventory and Net-Zero Action Planning. Environmental Defense Fund. \$150,000. May 2021- Apr 2023

Troxler, T. (PI), M. Bhat (co-PI), S. Evans (co-PI, UM; separate award), A Stainback (co-PI, Everglades Foundation; separate award). Alternative valuation methodology assessment for equity and environmental outcomes in resilience project benefit-cost analyses. The Miami Foundation. \$31,018. Nov 2020 – Jun 2022.

Grimm, N. (PI), Redman, C. (co-PI), Gaiser, E. (FIU PI), Kominoski, J. (FIU co-PI), **Troxler, T.** (FIU co-PI), et al. Urban Resilience to Extremes Sustainability Research Network (UREx SRN). National Science Foundation. \$12M; FIU subaward: \$750,000, Nov 2015 – Jun 2022

PUBLICATIONS (Selected out of 70)

Troxler, T.G., A.C. Clement, Y. Arditi-Rocha, G. Beesing, M. Bhat, J. Bolson, C. Cabán-Alemán, K. Castillo, O. Collins, M. Cruz, A. Dodd, S.D. Evans, A.L. Fleming, et al. 2021. A System for Resilience Learning: Developing a community-driven, multi-sector research approach for greater preparedness and resilience to long-term climate stressors and extreme events in the Miami metropolitan region. *Journal of Extreme Events* 8. [dx.doi.org/10.1142/S2345737621500196](https://doi.org/10.1142/S2345737621500196)

Chang, H., A. Pallathadka, J Sauer, NB Grimm, R Zimmerman, C Cheng, DM Iwaniec, Y Kim, R Lloyd, T McPhearson, B Rosenzweig, **T Troxler**, C Welty, R Brenner, P Herreros-Cantis. 2021. Assessment of urban flood vulnerability using the social-ecological-technological systems framework in six cities. *Sustainable Cities and Society* 68. doi.org/10.1016/j.scs.2021.102786

Troxler, TG, G Starr, JN Boyer, JD Fuentes, and R Jaffe et al. 2019. Carbon Cycles in the Florida Coastal Everglades Social-Ecological System Across Scales (Chapter 6). *In The Coastal Everglades: The Dynamics of Social-Ecological Transformations in the South Florida Landscape.* Childers, D, Gaiser, E, Ogden, L (Eds). Oxford University Press.

Troxler, T., Kennedy, H., Crooks, S., Sutton-Grier, A. 2019. Introduction of Coastal Wetlands into the IPCC Greenhouse Gas Inventory Methodological Guidance. *In A Blue Carbon Primer: The State of Coastal Wetlands Carbon Science, Practice and Policy.* L Windham-Myers, S Crooks, **TG Troxler** (Eds). CRC Press, Boca Raton, FL. 480p.

National Academies of Sciences, Engineering, and Medicine 2018. Negative Emissions Technologies and Reliable Sequestration: A Research Agenda. Washington, DC: The National Academies Press. doi.org/10.17226/25259.

Wilson BJ, S Servais, V. Mazzei, S Davis, E Gaiser, J.S. Kominoski, J Richards, F. Sklar, **T Troxler.** 2018. Changes in ecosystem carbon cycling with increased salinity exposure in the coastal Florida Everglades. *Ecological Applications*. doi.org/10.1002/eap.1798.

SYNERGISTIC ACTIVITIES (Selected from last 3 years)

Nov 2021 – present	Co-Chair, Executive Committee, International LTER Network
Feb 2020 – Nov 2021	Co-Chair, Coastal Estuarine Research Federation Design Competition
Jun 2019 – present	Co-Director, <i>Resilient305</i> Collaborative
Jul 2019 – Jan 2021	Member, Southeast Regional Climate Change Compact Sea Level Rise Projection Work Group (Work Group Sunset)
Jun 2019 – Aug 2020	Member, Miami-Dade County Biscayne Bay Task Force (Task Force Sunset)

CERTIFICATIONS

Jun 2019	Certified Floodplain Manager (CFM), The Association of State Floodplain Managers
Dec 2013	United Nations Framework Convention on Climate Change – National Greenhouse Gas Inventory Review Expert – Land Use, Land-use Change and Forestry

EDUCATION

Emory University, MPH, Global Environmental Health, May 2016

Brown University, BA, Community Health, May 2014

School of International Training, Chile: Public Health, Traditional Medicine, and Community Empowerment, Fall 2012

POLICY & MOVEMENT-BUILDING EXPERIENCE

Vice President of Policy & Advocacy, Catalyst Miami

Miami, FL | January 2020-Present

- Oversee the Policy & Engagement Department, developing high-impact strategies that build grassroots power and inspire thousands to take action on climate justice, affordable housing, racial justice & other top community concerns
- Lead strategic policy campaigns and communications strategy on climate, racial, and economic justice
- Build and maintain partnerships with over 75 partners, including non-profits, government bodies, national experts, academia, thought leaders, and funders
- Manage grants, budgets, and financial records valued at \$3M
- Conduct strategic planning, as well as program evaluation and data collection to inform departmental learning
- Facilitate organizational shift to a movement-building orientation through hosting meetings, trainings, and participatory research with staff and community members
- Coach and manage a team of 8 staff to facilitate leadership programming, community engagement, and policy work
- Authored LIGHT, a leadership training programs that builds grassroots health justice advocacy skills among adults and youth

Co-Chair, Miami Climate Alliance

Miami, FL | January 2017-Present

- Support an equitable, diverse, and inclusive network of over 100 organizations committed to achieving climate & racial justice, specifically through establishing a hiring process, drafting principles, and leading the development of organizational protocol for transparent and inclusive organizing – resulting in a 344% increase in leadership of color in the coalition since January 2017
- Facilitate two working groups of 300 community leaders to work on equitable climate investments, as well as climate & health concerns
- Led creation of a collective budgeting process for the Florida Gulf South for a Green New Deal, resulting in \$400k distributed to grassroots organizations across the state

Senior Director of Policy & Advocacy/Resilience Director, Catalyst Miami

Miami, FL | February 2018-January 2020

- Oversee the Policy & Engagement Department
- Lead strategic policy campaigns and communications strategy on climate, racial, and economic justice, resulting in: an ordinance mandating equity requirements for the Miami Forever Bond’s oversight board, a \$450K investment in Miami-Dade County’s low-income energy efficiency programs, the reversal of a proposed departmental demotion and budget cuts for the City of Miami’s Office of Resilience, a local resolution to improve statewide utility energy efficiency standards, and increased inclusion & equity concerning public participation in government processes
- Build and maintain partnerships with over 52 partners, including non-profits, government bodies, national experts, academia, thought leaders, and funders
- Manage grants, budgets, and financial records
- Wrote grants and secured funds of over \$930K for policy & leadership-building programming
- Coach and manage a team of 5 staff to facilitate leadership programming, community engagement, and policy work
- Facilitate staff leadership retreats, as well as organizational trainings on racial equity and intersectionality
- Authored HEAL Miami, a leadership training programs that builds grassroots housing advocacy skills among adults and youth, resulting in 133 graduates; featured in The Miami Herald

Climate Resilience Program Manager, Catalyst Miami

Miami, FL | May 2016-February 2018

- Worked actively with and supported networks of over 45 organizations on climate policy, resulting in: a successful GOTV effort for a \$400M investment in resilience at the City of Miami, a successful GOTV effort for two FL constitutional amendments related to solar energy, and the addition of a community-informed chapter on social equity in the Southeast FL Regional Climate Action Plan
- Managed over \$155K in program budgets and 1 staff who implemented leadership programming
- Established a mini-grant program for community members to launch grassroots environmental justice initiatives, resulting in 13 grantees and projects that impact thousands of community members

- Monitored and evaluated programs for effectiveness and impact, presenting data at the American Public Health Association 2018 Annual Meeting
- Authored and facilitated CLEAR Miami, a leadership training program that builds grassroots climate justice advocacy skills, resulting 300 graduates; featured in National Geographic, USA Today, and The Root
- Organized over 400 community members to advocate for equity in local, regional, and state-level climate policy
- Facilitated dozens of community meetings on climate resilience, educating over 600 community members

Program Coordinator, Environmental Justice League of RI

Providence, RI | May 2014-February 2015

- Coordinated a two-month long environmental, food, & racial justice education program for 40 secondary school youth
- Authored and facilitated an 8-week environmental justice youth leadership curriculum
- Managed 12 staff and a program budget of \$47K
- Provided grant writing assistance to local organizations
- Conducted program monitoring & evaluation

RESEARCH & PUBLIC SPEAKING EXPERIENCE

Disaster Preparedness Intern, United States Centers for Disease Control

Atlanta, GA | June 2015-May 2016

- Conducted literature review and prepared research manuscript to inform the impact and evaluation of the National Environmental Public Health Tracking Network's disaster module
- Reviewed state grant applications for the National Environmental Public Health Tracking Network
- Presented findings to national workgroup and CDC branch leadership

Thesis & Publications

- Pérodin, J., Adefris, Z., Cruz, M., Matos Rondon, N., Hermantin, L., De la Cruz, G., Ganapati, N.E. and Ganapati, S. (2021), "Reconceptualizing disaster phases through a Metis-based approach", *Disaster Prevention and Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/DPM-02-2021-0060>
- "Prenatal Pyrethroid Pesticide Exposure and Neurodevelopmental Outcomes in a Thai Agricultural Birth Cohort". Master's Thesis. 2016.

Conference Presentations

- National-level presentations include the Smart Growth American Equity Summit (2021), TED Countdown (2020), Closing Plenary of the National Adaptation Forum (2019), The Funder's Network Convening (2019), Biodiversity Funders Group Convening (2018), National Environmental Justice Conference (2018), and American Public Health Association Annual Meeting (2017)

AWARDS & BOARD APPOINTMENTS

Awards

- Florida International University Emerging Leader Award Finalist. 2020.
- Grist 50 Fixer. 2020.
- The Miami Times New Generation of Dreamers. 2017.
- Generation Response Writing Contest – 1st Place Winner. 2015.

Board Appointments

- Rollins School of Public Health Environmental Health DEI Steering Committee Member. 2020-Present.
- Miami-Dade College Earth Ethics Institute National Advisory Board. 2019-2021.
- Miami-Dade County Community Action Agency Board. 2019-2020.
- Philanthropic Trustee of The Solutions Project. 2018-Present.

SKILLS

- **Spanish:** Professional working proficiency
- **Technical:** R, GIS, SAS, SPSS, RedCap, Salsa CRM, Salesforce, Evernote, Zoom, Google Drive, Adobe Suite, Canva, MS Office, Social Media

Miami-Dade County & Resilient305 Collaborative

**Promoting community-based air quality
monitoring partnerships to overcome
environmental and health disparities in
Miami-Dade County**

ATTACHMENT E
Quality Assurance Letter

V. Quality Assurance Statement

The project will conduct a series of management activities necessary to ensure the quality and defensibility of the data products and employ technical activities to verify data outputs throughout the data collection process. Should the project be funded, Miami-Dade County will seek EPA approval a quality assurance project plan for air quality data collection, production and use, as required.

Palomino (please see resume and partner letter, attached), Chief of the Air Quality Management Division (AQMD) in the Department of Regulatory and Economic Resources in the Division of Environmental Resources Management for Miami-Dade County, is responsible for managing staff that satisfy the EPA regulatory standards for ambient air quality monitoring using AQMD instruments. Their QA/QC will not be reviewed here, but can be found at: <https://floridadep.gov/air/air-monitoring/content/miami-dade-county-air-monitoring>.

A. Project/Task Organizations

Key Project Personnel

Miami-Dade County

Palomino - Key personnel – oversees AQMD program; shares responsibility for verifying QA/QC of new air quality data generated with this project

Project Coordinator – Key personnel – provides data summaries and QA/QC documentation to Palomino (or AQMD staff designee) for final review

Resilient305 Collaborative (project partners)

Troxler, Olivas, Gaston, Biswas - Key personnel – oversees new air quality sensor deployment, data collection, and data management; shares responsibility for verifying QA/QC of new air quality data generated with this project

Moanga - Key personnel – responsible for data management and initial data review

Project Partner Coordinator, Key staff - Key personnel – responsible for field instrument maintenance and data compilation

B. Project Task/Description

Measurements to be made on-site

- Ozone
- PM_{2.5}
- Temperature
- Relative Humidity

Technical specific standards include those specified by sensor manufacturers, including types of personnel, equipment and instruments required to perform field sampling

The project will employ new sensors from 2 manufacturers: Aeroqual and PurpleAir. Aeroqual sensors include ozone, temperature and relative humidity. PurpleAir sensors measure PM_{2.5}, temperature and relative humidity. Temperature and relative humidity sensors are required for both ozone and PM_{2.5}: 1) because they are different instruments, and needed for comparability, and 2) to report data within the

operational range of the sensors [Aeroqual ozone (temp: 0-40C/RH:10-90%) and PurpleAir PM_{2.5} (temp:-40-85C/RH:0-99%)].

The ozone sensor type is gas sensitive semiconductor, with a range of 0-0.15 ppm, minimum detection of 0.001ppm, resolution of 0.001ppm and response time of 60s. The PM_{2.5} sensor is a laser particle counter, with an effective range of 0-500 µg/m³, and maximum consistency error of ±10% at 100 to 500µg/m³ & ±10µg/m³ at 0 to 100µg/m³.

Each sensor comes factory calibrated. Sensors and associated instrumentation will be managed by the Resilient305 Collaborative field crew.

C. Instrument Testing, Inspection and Maintenance Requirements/Instrument Calibration Frequency

Field sites are visited every 3-4 weeks for regular sensor data verification checks. The Aeroqual ozone sensor is verified with a calibration accessory, and providing for a one-point calibration. PM_{2.5}, humidity and temperature will be verified with a separate calibrated instrument (Aeroqual portable monitor). Sensors performing at less than specified resolution will be returned to the manufacturer for factory recalibration or replaced.

D. Plans for archiving data, samples, software, and other research products

This project will archive datasets in the repository operated by the Environmental Data Initiative (EDI). Cleaned, quality controlled, and publish-ready data sets, along with required metadata, will be entered into the established EDI data pipeline by the data authors. Data creators may participate in data management training provided by EDI as needed and seek EDI's advice for optimally structuring and documenting their data. EDI will publish the data through its own search application, the DataONE federation's search interface and Google dataset search, where they can be discovered via sophisticated search mechanisms and manually or programmatically downloaded. All datasets will be documented in the Ecological Metadata Language (EML), a metadata standard well established and widely used within the ecological research community. The EDI repository fully supports immutability and strong versioning of datasets with all older versions being available for auditing and reproducibility. Each dataset version is provided its own unique Digital Object Identifier (DOI), which is registered by DataCite and resolvable through DataCite. In addition, EDI maintains a GitHub code repository for archiving data-related scripts and software developed by the project. Alternatively, dataset specific processing scripts will be archived as part of the data package in the EDI repository.

Miami-Dade County & Resilient305 Collaborative

**Promoting community-based air quality
monitoring partnerships to overcome
environmental and health disparities in
Miami-Dade County**

ATTACHMENT F

**Resilient305 Research Collaborative Fund
Fiscal Sponsorship Agreement**

Fiscal Sponsorship Agreement

AGREEMENT TO ESTABLISH THE Resilient305 Research Collaborative Fund

(A Fiscal Sponsorship Fund at The Miami Foundation)

This agreement is between The Miami Foundation, Inc. ("the Foundation"), and Resilient305 Research Collaborative for the Resilient305 Research Collaborative (the "Project"), who agree as follows:

1. The Foundation is a Florida nonprofit corporation that is tax-exempt under Section 501(c)(3) of the Internal Revenue Code (the "Code"), having its principal office at 40 Northwest 3rd Street, Suite 305, Miami, FL 33128. The Foundation's charitable purpose is to build community through leadership and philanthropy. The Foundation enters into this Agreement to further that tax-exempt purpose.
2. Resilient305 Research Collaborative, having its principal office at 11200 SW 8th ST, OE148, Miami, FL 33199, is interested in collaborating with the Foundation on the Resilient305 Research Collaborative project. The Project is/will To accelerate positive outcomes for all through resilience learning by leading a joint academic-government research partnership among Florida International University, Miami-Dade College, University of Miami, and government and non-government organization leaders of Greater Miami & the Beaches (GM&B) committed to advancing community resilience.
Any changes in the purposes of the Project as stated in this Paragraph 2 must be approved in writing by the Foundation before implementation.
3. The Project designates Tiffany Troxler and Amy Clement to act as its primary representative and contact person ("Designated Representative") in all communications and other dealings with the Foundation. All correspondence regarding this Fund shall be sent to Tiffany Troxler and Amy Clement. The Designated Representative can also be reached at troxler@fiu.edu and aclement@rsmas.miami.edu. The Project agrees to notify the Foundation if it elects to designate a different individual as its Designated Representative.
4. The Foundation will serve as Fiscal Sponsor to the Project and will receive grants, tax deductible contributions, and other revenues on the Project's behalf for use in carrying out its charitable activities in a fund under the discretion and control of the Foundation (the "Fund"). In furtherance of the Foundation's support of the Project, the Foundation will provide:
 - Acknowledgement of contributions to the Fund as set forth in the Fiscal Sponsorship Guidelines, attached as Exhibit A to this Agreement
 - Quarterly fund statements
 - Fund accounting
 - Payment of Foundation-approved invoices
 - Reimbursement for approved Fund expenses
 - Online donation forms for donors to the Project
 - Online fund management for the Project to track Fund activity
5. Use of the Foundation's name and status to apply for grant funding (excluding Federal grants), subject to Foundation's approval. Submission of related grant reports in partnership with the Project.
6. In consideration of the fiscal management and related support, the Foundation shall receive an administrative fee in an amount equal to 8% of the funds it receives on behalf of the Project. The fee will be taken upon deposit to the Fund. Credit card processing fees and other fees may apply in certain circumstances.

7. The Project shall at all times be operated consistent with the charitable status of the Foundation. The Project agrees not to engage in any activities which could jeopardize the tax-exempt status of the Foundation. The Project is prohibited from using any assets in the Fund to:
 - (A) Influence the outcome of any specific election or to participate or intervene in any political campaign on behalf of, or in opposition to, any candidate for public office, within the meaning of Section 501(c)(3) the Code;
 - (B) Influence legislation within the meaning of Section 501(c)(3) of the Code;
 - (C) Induce or encourage violations of law or public policy;
 - (D) Undertake any activity for any purpose other than the exempt purposes specified in Section 170(c)(2)(B) of the Code; and
 - (E) To cause any private inurement or improper private benefit to occur, or to take any other action inconsistent with Section 501(c)(3) of the Code.
8. This Agreement shall commence on the date that both parties have signed this Agreement and shall remain in effect until all funds received by the Foundation for the Project have been properly expended and any grantor terms and conditions have been satisfied, or until any applicable grantors have released the Foundation from further responsibility or grant restrictions for grant funds in the Fund. The Foundation shall not accept any additional funds on behalf of the Project after the date this agreement is terminated by the Foundation or the Project.
9. The Foundation retains the right, if the Project, the Designated Representative, or any of the representative individuals, organizations, companies, employees, or other agents who are party to this Agreement breaches this Agreement, or if the conduct of the Project jeopardizes the Foundation's legal or tax status, to withhold, withdraw, or demand immediate return of any funds disbursed from the Fund.
10. The Foundation may terminate this Agreement by providing a written notice to the Designated Representative at least thirty (30) days prior to the date it intends to terminate the Agreement. The Project may terminate this Agreement by having its Designated Representative provide written notice to the Foundation at least thirty (30) days prior to the intended termination date. If (a) either party terminates the Agreement before funds the Foundation received on behalf of the Project have been fully expended and without the release of any applicable grant restrictions, or (b) the Foundation terminates this Agreement based on the Project's breach of this Agreement, the Foundation at its sole discretion may expend the remaining funds in the Fund so as to accomplish the purposes of the Project as nearly as possible within the Foundation's sole judgment. The Foundation does not fiscally sponsor 501(c)(3) organizations and will begin termination procedures at the point at which the fiscally sponsored project receives its determination.
11. The Foundation shall place all funds received on behalf of the Project into commingled bank and investment accounts owned by the Foundation; however, the Foundation will separately track the Fund balance and activity in its accounting and reporting systems. The Foundation retains the unilateral right to spend such funds so as to accomplish the purposes of the Project subject to any grant restrictions imposed by grantors or donors. The parties agree that all of the funds the Foundation receives on behalf of the Project shall be reported as income of the Foundation, for both tax purposes and for purposes of the Foundation's financial statements. It is the intent of the parties that this Agreement be interpreted to provide the Foundation with the variance powers necessary

to enable the Foundation to treat the Fund as a Foundation's asset in accordance with Financial Accounting Standards Board, Accounting Standards Codification, Topic 958, Not-for-Profit Entities, as amended, while this Agreement is in effect. The Foundation has determined, and it's the parties' intent, that the Fund is not a donor-advised fund within the meaning of Section 4966(d)(2) of the Code.

12. All intellectual property created by the Project using funds the Foundation received on the Project's behalf shall be the property of the individual who created it.
13. The Designated Representative shall notify Sponsor immediately of any change in:
 - (A) The Project's legal or tax status, including without limitation recognition of the Project's 501(c)(3) exemption from federal income taxation; or
 - (B) The Project's executive staff or key staff responsible for administering the Project.
14. The Project and any of its representative individuals, organizations, companies, employees, or other agents who are party to this Agreement hereby irrevocably and unconditionally agree, to the fullest extent permitted by law, to defend, indemnify, and hold harmless the Foundation, its officers, directors, trustees, employees and agents, from and against any and all claims, liabilities, losses, and expenses (including reasonable attorneys' fees) directly, indirectly, wholly, or partially arising from or in connection with any act or omission of the Project or agents in applying for or accepting contributions, in expending or applying the funds in the Fund, or in carrying out the Project, except to the extent that such claims, liabilities, losses, or expenses arise from or in connection with any act or omission of the Foundation, its trustees, officers, employees or agents.
15. This Agreement supersedes any prior written or oral agreements between the parties.
16. The parties to this Agreement will not assign any of its obligations or duties under this Agreement without the prior written consent of the other party to this Agreement.
17. The Project does not and shall not act as an agent for the Foundation or enter into contracts or other obligations on behalf of the Foundation unless specifically authorized in writing by the Foundation to do so. Any such obligations incurred, damages or injuries caused, or misconduct committed by the Project are not the responsibility of the Foundation. Nothing in this Agreement constitutes the naming of the Project or any of its agents as an agent or legal representative of the Foundation for any purpose whatsoever except as specifically and to the extent set forth herein. This Agreement may not be deemed to create any relationship of agency, partnership, or joint venture between the parties, and the agents of the Project, including the Designated Representative, shall make no such representation to anyone.
18. The Project shall acknowledge the Foundation as its Fiscal Sponsor in all media and communications (written, oral, audio, video, or electronic). The Project shall explicitly made clear that the Project is conducted under the Foundation's fiscal sponsorship.
19. The Project agrees to abide by the current version of the Foundation's attached Fiscal Sponsorship Guidelines.
20. This Agreement shall be governed by and construed in accordance with the laws of the State of Florida.

21. This Agreement may be amended only by the written agreement of the parties.

22. This Agreement may be executed in any number of counterparts, including counterparts transmitted by facsimile of this Agreement, each of which so executed is deemed to be an original, and such counterparts together, upon delivery, constitute one and the same instrument.

23. Additional (none if left blank)

In witness thereof, the parties have executed this Fiscal Sponsorship Agreement as of the dates below.

PROJECT

Tiffany Troxler

Name

Dr.

Title

DocuSigned by:

Tiffany Troxler

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Signature

5/9/2021

Date

THE MIAMI FOUNDATION

Julie Vives

Name

Vice President and Chief Operating Officer

Title

DocuSigned by:

Julie Vives

3D6958FE6B464BF...

Signature

4/29/2021

Date